



HP Valves Oldenzaal BV

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COVERPAGE TO INSPECTION / TEST CERTIFICATE

Customer : CMI (HRSG + Energy Services)
Project : Yajva SBV
Customer P/O no : 203/2010/900588
Shop order no : 2010 0006
Item no : 172 / 000
Quantity : 1 pce

KKS No : 15HAH50AA145

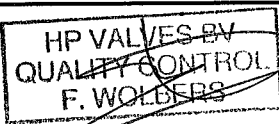
Medium & high-pressure valves in
accordance with ASME, API, BS & DIN

Bank ABN-AMRO SWIFT-address ABNANL2A
EUR-account 59.55.41.437 IBAN-code NL88ABNA0595541437
USD-account 57.60.74.780
Trade register Enschede 060.567.50
VAT no NL 008671242B01

Member of Indutrade AB



FUNCTIONAL TEST REPORT

Customer : CMI (HRSG + Energy Services)			
Project : Yajva SBV			
Cust. P/O no : 203/2010/900588			
HP order reference : 2010 0006			
Item no : 172 / 000			
Qty	Nominal size	Description	
1 pce	2" / DN 50	Gate Valve, 900lbs, Make: KVT Mat.ASTM SA182 SA105N. Incl. Limitorque actuator Type MX05 KKS No.: 15HAH50AA145 Serial no. Actuator : B0000232	
TEST DESCRIPTION		REMARKS	TESTED
FUNCTIONAL TEST		Closing or opening time	RESULTS
In case of actuating devices, closing and opening will be checked		at 50 Hz	✓ 13 sec
✓ = Test results were acceptable considering the applicable procedures and requirements.			
Signed HP VALVES BV :		Signed THIRD PARTY:	
 OLDENZAAL 26-07-2010			

TEST / INSPECTION CERTIFICATE

(EN 10204-3.1)

Client : HP VALVES

KEY VALVE TECHNOLOGIES LTD.

P.O. No. : P10 0043 / 2010 0006

Report No. : TIC100614-01-05

Date of Issue : 2010. 06. 14

Item Description : P.S.G. VALVE(MOV, SW ENDS)			CLASS :900		MATERIAL : (S)A105N		
Serial No.	SN1000008~12	Size	2"	Q'ty	5	Set	

HYDRAULIC / PNEUMATIC TEST

Hydraulic Test	Shell	:	233	Barg	Pneumatic Test	Shell	:	N/A	Barg
	Seat	:	171	Barg		Seat	:	N/A	Barg

Dimension Inspection	GOOD	Visual Inspection	GOOD	Function Test	GOOD
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MATERIAL SPECIFICATION

Product Name	Material	ASTM	Heat No.	Code Marking	Remarks
Body	Forged Steel	(S)A105N	391982	CM7	
Bonnet	Forged Steel	(S)A105N	S72665		
Seat Ring	13Cr Stainless Steel	A276-410			Stellite #12
Disc	13Cr Stainless Steel	A276-410			Stellite #6
Stem	13Cr Stainless Steel	A276-410			
		-BLANK-			

CHEMICAL COMPOSITION

Element	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	
	min.	-	0.10	0.600	-	-	-	-	-	-	-	
Heat No.	max.	0.35	0.35	1.050	0.035	0.040	0.40	0.40	0.30	0.12	0.08	0.020
391982		0.200	0.280	0.870	0.014	0.006	0.130	0.040	0.090	0.010	0.002	0.000
S72665		0.221	0.272	0.967	0.015	0.011	0.107	0.036	0.198	0.107	0.001	0.001
						-BLANK-						

MECHANICAL PROPERTIES

Item	Tensile Strength min(Mpa)	Yield Strength min(Mpa)	Elongation min(%)	Reduction of Area min(%)	Hardness max(HB)	Remarks
	S.T.D					
391982	485.0	250.0	22.0	30.0	187	
S72665	592.9	330.9	35.7	46.5	160	
	512.0	302.2	32.0	53.0	164	
			-BLANK-			

- Notes 1. These Standards for inspection conform to ASME B16.34 / API-598
2. Hydrostatic test : Shell-holding time(15 sec), Seat-Holding time(15sec, leakage

HP VALVES	Medium & high pressure valves acc. ANSI, API, BS & DIN
Your ref. : 203/2010/900500	
Order ref. : 2010 0006 Pos: 1/2/000	
Qty. : 1 pce	

We hereby certify that the result mentioned above are true correct in every detail.

Prepared by


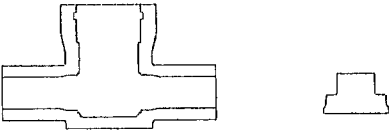
[Signature]

Reviewed by

HP VALVES
Reviewed
Witnessed
F. Wolberts
2010/06/14

QA Manager

[Signature] T. Y. WON

 (주) 지.티.에스 Global Technology Service Co., Ltd.	자분탐상검사보고서 <i>Report of Magnetic Particle Examination</i>		보고서번호 Report No.	G10M-KVT-0006-01
	650-8 1-dong Sangnok-gu Ansan-si Gyeonggi-do, Korea 경기도 안산시 상록구 이동 650-8 TEL: (031) 433-3861~2, FAX: (031) 433-3863		쪽 번호 Page No.	1 of 2
발 주 처 Customer	HP VALVES	제 작 자 Manufacturer	KVT	
제품명 / 번호 Item Name/No.	BODY & BONNET (All Surfaces)	공사명 / 번호 Project Name/No.	Yajvinskaya CCPP	
재 질 / 두께 Material/Thickness	See Next Page	Serial No.	See Next Page	
전 처 리 Surface Preparation	SOLVENT CLEANING	표 면 상 태 Surface Condition	<input type="checkbox"/> As Welded <input type="checkbox"/> As Machined <input checked="" type="checkbox"/> As Forged <input type="checkbox"/> As Casted	
검 사 방 법 Examination Method	<input checked="" type="checkbox"/> 연속법(Continuous) <input type="checkbox"/> 잔류법(Residual)	시 험 온 도 Surface Temperature	22 <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	
자분종류 / 적용방법 Magnetic Particle / Application	제조사(Maker): NAWOO 형 식(Model): 14-AM 제조번호(Batch No.): 05MPB06	자 화 방 법 Magnetization Technique	<input checked="" type="checkbox"/> Yoke <input type="checkbox"/> Prod Head Shot <input type="checkbox"/> Coil	
	종류 (Type)		극 간 거 리 Pole Spacing: 3~6 <input type="checkbox"/> mm <input checked="" type="checkbox"/> in.	
	<input type="checkbox"/> 염색(Color) <input checked="" type="checkbox"/> 형광(Fluorescent) <input checked="" type="checkbox"/> 습식(Wet) <input type="checkbox"/> 건식(Dry)		자화전류 (Magnetizing Current) <input checked="" type="checkbox"/> 교류(AC) <input type="checkbox"/> 직류(DC) Ampere	
	적용방법(Application) <input checked="" type="checkbox"/> 분사(Spray) <input type="checkbox"/> 흘림(Flowing) <input type="checkbox"/> 침적(Immerse)		제조사 Maker: NAWOO 형식 Model: MY-2 일련번호 Serial No.: NW1089	
탈 자 Demagnetization	<input type="checkbox"/> 유(Yes) <input checked="" type="checkbox"/> 무(No)	자 화 방 향 Magnetization Direction	<input checked="" type="checkbox"/> 선형(Longitudinal) <input type="checkbox"/> 원형(Circular)	
자 외 선 등 Black Light	형 식 Model: UV-100	육안관찰등 Visible Light	형 식 Model: N/A	
	일련번호 Serial No.: NW0147	<input type="checkbox"/> 주 변 등 Ambient Light	일련번호 Serial No.: N/A	
	강 도 Intensity: 1250 $\mu W/cm^2$	<input type="checkbox"/> 보 조 등 Glow Lamp	강 도 Intensity: N/A Lux	
총 검 사 수 량 Examination Qty	30 SETS	검 사 시 기 Examination Time	<input type="checkbox"/> 열처리 전(Before PWHT) <input checked="" type="checkbox"/> 열처리 후(After PWHT)	
적 용 규 격 Code/Standard/Spec. ASME B16.34 APPENDIX II/ GTS-QP-MA-02 Rev.4				
도 면 Sketch				
				
<div style="display: flex; justify-content: space-between;"> <div> <p>검 사 자 Examined & Interpreted by</p> <p>LEVEL II <u>M. S. YUN</u></p> <p>책 임 자 Approved by</p> <p>LEVEL III <u>Y. C. CHIN</u></p> </div> <div> <p><input type="checkbox"/> Witnessed by</p> <p><input type="checkbox"/> Reviewed by</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>HP VALVES Medium & High Pressure</p> <p>acc. ANSI API 605-001</p> <p><input checked="" type="checkbox"/> Reviewed <input type="checkbox"/> Witnessed</p> <p>F. Williams - Q.C.</p> <p>Date: 2010.05.10</p> </div> </div> </div>				



1650-8 I-dong Sangnok-gu Ansan-si Gyeonggi-do, Korea
경기도 안산시 상록구 이동 650-8 TEL:031)433-3861~2, FAX:031)433-3863


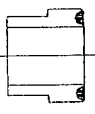
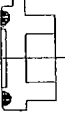
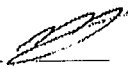
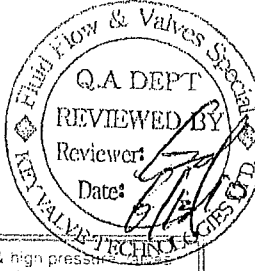

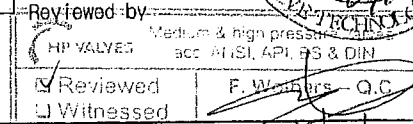
天官地官人官
水官火官土官
木官金官

보고서번호 Report No.	
쪽 번호 Page No.	
검사일자 Date of	

G10M-KVT-0006-01		
2	of	2

2010.05.27

Q.A DEPT
 REVIEWED BY
 Reviewers
 Date:

 (주) 지.티.에스 Global Technology Service Co., Ltd.	침투탐상검사보고서 <i>Report of Liquid Penetrant Examination</i>		보고서번호 Report No.	G10P-KVT-0006-01
	650-8 I-dong Sangnok-gu Ansan-si Gyeonggi-do, Korea 경기도 안산시 상록구 이동 650-8 TEL: 031) 433-3861~2, FAX: 031) 433-0005		쪽 번호 Page No.	1 of 2
		검사일자 Date of	2010. 05. 27	
발 주 처 Customer	HP VALVE	제 작 자 Manufacturer	KVT	
제품명 / 번호 Item Name/No.	DISC / SEAT RING	공사명 / 번호 Project Name/No.	Yajvinskaya CCPP	
재 질 / 두께 Material/Thickness	- / - <input type="checkbox"/> mm <input type="checkbox"/> in.	Tag No.	See Next Page	
전 제 리 Surface Preparation	N/A	표 면 상 태 Surface Condition	<input type="checkbox"/> As Welded <input type="checkbox"/> As Formed <input checked="" type="checkbox"/> Hard Facing <input type="checkbox"/> As Casted	
침 투 제 Penetrant Type	<input checked="" type="checkbox"/> 염색(Color) <input type="checkbox"/> 형광(Fluorescent)	시 험 온 도 Surface Temperature	15 <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	
침투제(Penetrant) 제조사(Maker) : NAWOO 형 식(Model) : NPP-2 제조번호(Batch No.) : 05NPP06		세척제(Remover) 제조사(Maker) : NAWOO 형 식(Model) : NPR-1-3 제조번호(Batch No.) : 05NPR06		현상제(Developer) 제조사(Maker) : NAWOO 형 식(Model) : NPD-4 제조번호(Batch No.) : 05NPD06
종류 (Type) 적용방법(Application) <input type="checkbox"/> 수세성 (W/W) <input checked="" type="checkbox"/> 분사(Spray) <input type="checkbox"/> 후유화성 (P/E) <input type="checkbox"/> 솔질(Brush) <input checked="" type="checkbox"/> 용제제거성(S/R) <input type="checkbox"/> 침적(Immerse)		종류 (Type) 적용방법(Application) <input checked="" type="checkbox"/> 용제(Solvent) <input checked="" type="checkbox"/> 닦음(Wiping) <input type="checkbox"/> 물 (Water) <input type="checkbox"/> 분사(Water Spray) <input type="checkbox"/> 침적(Water Immerse)		종류 (Type) 적용방법(Application) <input type="checkbox"/> 건 식 (Dry) <input checked="" type="checkbox"/> 분사(Spray) <input type="checkbox"/> 습 식 (Aqueous) <input type="checkbox"/> 솔질(Brush) <input checked="" type="checkbox"/> 속건식 (Nonaqueous) <input type="checkbox"/> 침적(Immerse)
침투시간(Dwell Time) : 10 분(Min.)		현상시간(Bleed-out Time) : 20 분(Min.)		
자 외 선 등 Black Light	형 식 Model	N/A	육안관찰등 Visible Light	형 식 Model
	일련번호 Serial No	N/A	<input type="checkbox"/> 주 변 등 Ambient Light	일련번호 Serial No.
	강 도 Intensity	N/A $\mu W/cm^2$	<input checked="" type="checkbox"/> 보 조 등 Glow Lamp	강 도 Intensity
적 용 규 격 Code/Standard/Spec.	ASME B16.34 APPENDIX III / GTS-QP-PA-02 Rev.4		검 사 시 기 Examination Time	<input type="checkbox"/> 열처리 전(Before PWHT) <input checked="" type="checkbox"/> 열처리 후(After PWHT)
총 검 사 수 량 Examination Q'ty	30 SETS		검 사 결 과 Results	<input checked="" type="checkbox"/> 합 격 (Accept) <input type="checkbox"/> 불 합 격 (Reject)
도 면 Sketch				
<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> GATE SEAT RING GATE DISC </div>				
검 사 자 Examined & Interpreted by		<input type="checkbox"/> Witnessed by		
LEVEL II M. S. YUN 		<div style="text-align: center;">  </div>		
책 임 자 Approved by		<input type="checkbox"/> Reviewed by		
LEVEL III Y. C. CHIN 		<div style="text-align: center;">  </div>		



침투탐상검사보고서

Report of Liquid Penetrant Exam

650-8 I-dong Sangnok-gu Ansan-si Gyeonggi-do,
경기도 안산시 상록구 이동 650-8 TEL:031)433-3861~2, FAX:031)433-3861

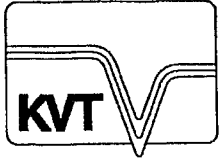
THE UNIVERSITY OF CHICAGO PRESS

G10P-KVT-0006-01

2 of 2

2010. 05. 27

[illegible]



INSPECTION REPORT

DOC.NO. : DIR100614-01

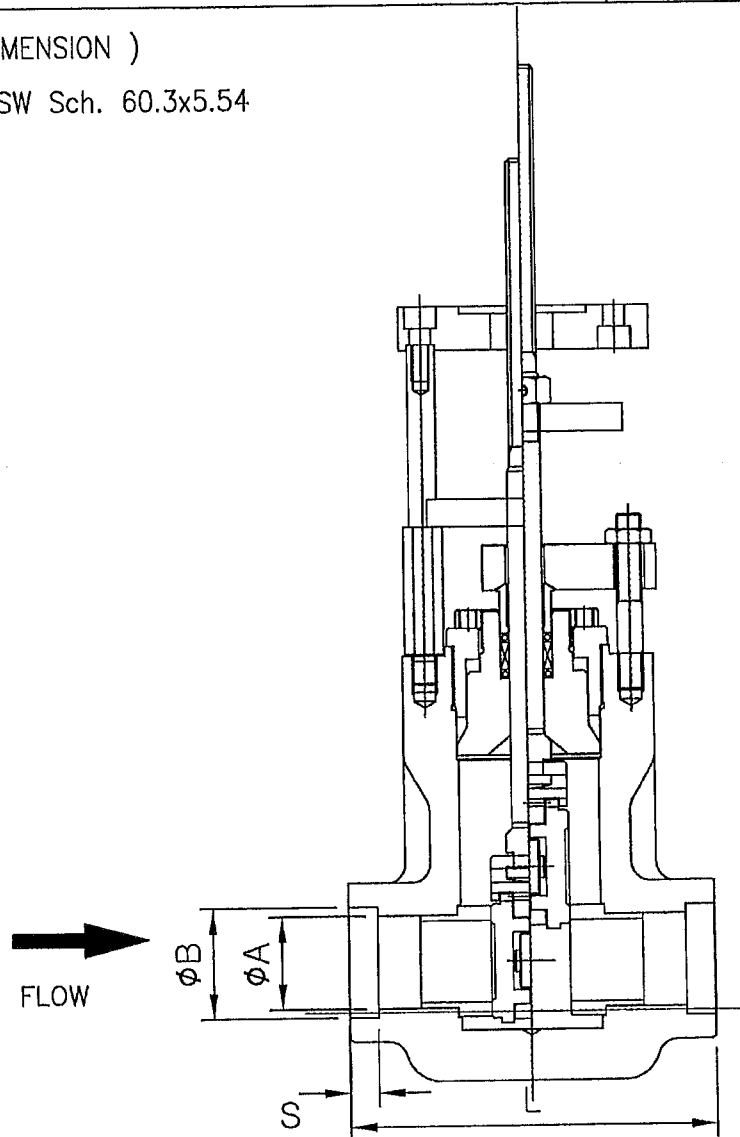
REV. NO. : 0

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☐ 외 형도 (OUTLINE DIMENSION)

P.S.G. V/V 2"-CL900 SW Sch. 60.3x5.54

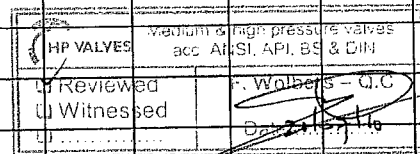
(S)A105N 5EA MOV



☐ 치수검사 (DIMENSION INSPECTION)

UNIT:mm

구 분 (DIVISION)	L ±1.5	ØA ± 0.3	ØB ± 0.3	S									
STANDARD	203	51.3	61.2	16									
SN1000008	203.3	51.2	61.2	16.0									
SN1000009	203.1	51.4	61.2	16.0									
SN1000010	203.3	51.4	61.2	16.0									
SN1000011	203.0	51.3	61.2	16.0									
SN1000012	203.2	51.2	61.2	16.0									



REMARK

1. DIMENSION CHECK

☐ SAMPLING CHECK

☒ 100% CHECK

PRE'D BY (QA.ENG'R)

VER'D BY (QA.MANAGER)

KEY VALVE TECHNOLOGIES LTD.