



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 : 179 / 000
Quantity : 1 pce

KKS No : 15LBB50AA128

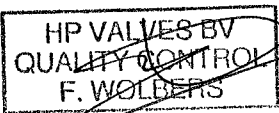
Medium & high-pressure valves in
accordance with ASME, API, BS & DIN

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 : 179 / 000			
Qty	Nominal size	Description	
1 pce	2" / DN 50	Gate Valve, 900lbs, Make: KVT Mat.ASTM SA182 F91. Incl. Limitorque actuator Type MX05 KKS No.: 15LBB50AA128 Serial no. Actuator : B0000239	
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
P.O. No. : P10 0043 / 2010 0006
Report No. : TIC100614-01-08

KEY VALVE TECHNOLOGIES LTD.

Date of Issue : 2010. 06. 14

Item Description : P.S.G. VALVE(MOV, SW ENDS)			CLASS :900		MATERIAL : (S)A182-F91	
Serial No.	SN1000015	Size	2"	Q'ty	1	Set


HYDRAULIC / PNEUMATIC TEST											
Hydraulic Test	Shell	:	388	Barg	Pneumatic	Shell	:	N/A	Barg		
	Seat	:	285	Barg	Test	Seat	:	N/A	Barg		
Dimension Inspection		GOOD		Visual Inspection		GOOD		Function Test		GOOD	


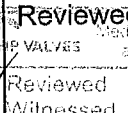
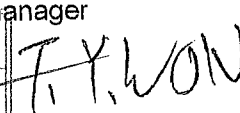
MATERIAL SPECIFICATION					
Product Name	Material	ASTM	Heat No.	Code Marking	Remarks
Body	Forged Alloy Steel	(S)A182-F91	A03669	JY6	
Bonnet	Forged Alloy Steel	(S)A182-F91	A12209		
Seat Ring	Forged Alloy Steel	F91+HF			Stellite #12
Disc	Forged Alloy Steel	F91+HF			Stellite #6
Stem	Stainless Steel	A276-431			
		-BLANK-			

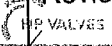
CHEMICAL COMPOSITION														
Heat No.	Element	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Al	V	Nb	N
	min.	0.08	0.20	0.30	-	-	-	8.00	0.85	-	-	0.180	0.060	0.03
	max.	0.12	0.50	0.60	0.020	0.010	0.40	9.50	1.05	-	0.04	0.250	0.100	0.07
A03669		0.090	0.306	0.388	0.010	0.001	0.221	8.43	0.96	0.05	0.009	0.192	0.067	0.035
A12209		0.097	0.296	0.389	0.015	0.002	0.162	8.694	0.908	0.117	0.011	0.201	0.099	0.040
					-BLANK-									


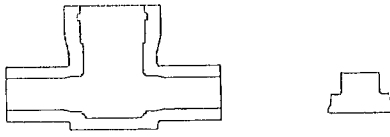
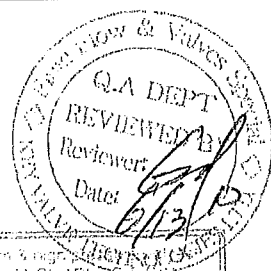
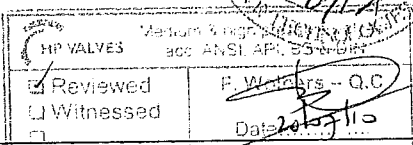
MECHANICAL PROPERTIES						
Item	Tensile Strength	Yield Strength	Elongation	Reduction of Area	Hardness	Remarks
	min(Mpa)	min(Mpa)	min(%)	min(%)	max(HB)	
S.T.D	585.0	415.0	20.0	40.0	248.0	
A03669	620.5	489.5	31.0	53.0	223.0	
A12209	751.5	634.3	24.0	66.0	229.0	
			-BLANK-			

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 5.0cc)


Medium & high pressure valves
acc. ANSI, API, BS & DIN
Your ref.: 203120101900588
Our ref.: 2010 0006 Pos: 1191000
Qty.: 1 pce

We here by certify that the result mentioned above are true correct in every detail.	Prepared by 	Reviewed by 	Q.A Manager 
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Medium & high pressure valves
acc. ANSI, API, BS & DIN
Reviewed
Witnessed
Date: 2010. 6. 14

 (주) 지.티.에스 Global Technology Service Co., Ltd.	자분탐상검사보고서 <i>Report of Magnetic Particle Examination</i>		보고서번호 Report No.	G10M-KVT-0006-01
			쪽 번호 Page No.	1 of 2
		검사일자 Date of		2010. 05. 27
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 - <input type="checkbox"/> mm <input type="checkbox"/> in.		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 Mchined <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) <input type="checkbox"/> 염색(Color) <input checked="" type="checkbox"/> 형광(Fluorescent) <input checked="" type="checkbox"/> 습식(Wet) <input type="checkbox"/> 건식(Dry)		자 화 장 비 Magnetization Equipment	극 간 거 리 Pole Spacing:
	적용방법(Application)			3~6 <input type="checkbox"/> mm <input checked="" type="checkbox"/> in.
	<input checked="" type="checkbox"/> 분사(Spray) <input type="checkbox"/> 흘림(Flowing) <input type="checkbox"/> 침적(Immerse)			자화전류 (Magnetizing Current) <input checked="" type="checkbox"/> 교류(AC) <input type="checkbox"/> 직류(DC) Ampere
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
	일련번호 Serial No	NW0147	<input type="checkbox"/> 주 변 등 Ambient Light	일련번호 Serial No.
	강 도 Intensity	1250 $\mu W/cm^2$	<input type="checkbox"/> 보 조 등 Glow Lamp	강 도 Intensity
총 검 사 수 량 Examination Q'ty	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="text-align: center;">  BODY BONNET </div>				
검 사 자 Examined & Interpreted by LEVEL II M. S. YUN			<input type="checkbox"/> Witnessed by <input type="checkbox"/> Reviewed by <div style="text-align: center;">   </div>	




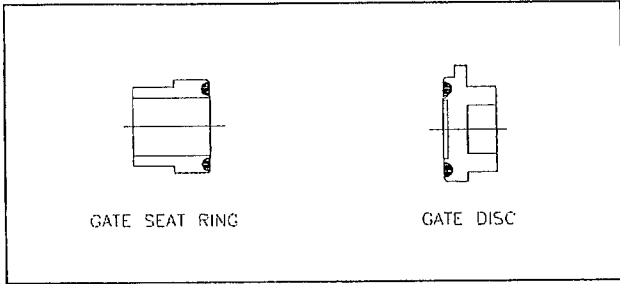
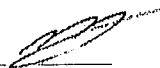
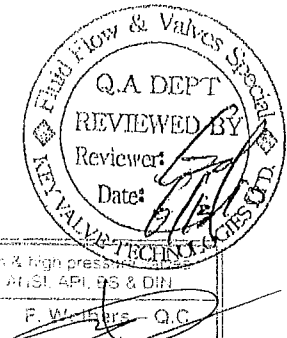

1650-8 I-dong Sangnok-gu Ansan-si Gyeonggi-do,
경기도 안산시 상록구 이동 650-8 TEL:031)433-3861~2, FAX:031)433-3862

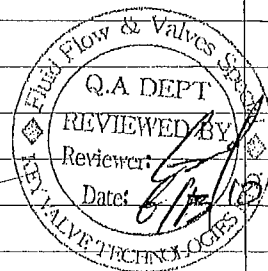
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 和

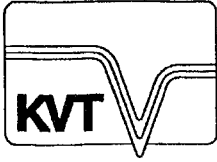
보고서번호 Report No.	
쪽 번호 Page No.	
검사일자 Date of	

2010. 05. 27

QUALITY & VALUE
 QA DEPT
 REVIEWED BY
 Reviewer: *[Signature]*
 Date: *6/13/18*

 (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 1-dong Sangnok-gu Ansan-si Gyeonggi-do, Korea 경기도 안산시 상록구 이동 650-8 TEL: (031) 433-3861~2, FAX: (031) 433-3865		쪽 번호 Page No.	1 of 2	
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 처 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 형식(Model): NPP-2 제조번호(Batch No.): 05NPP06		세척제(Remover) 제조사(Maker): NAWOO 형식(Model): NPR-1-3 제조번호(Batch No.): 05NPR06		현상제(Developer) 제조사(Maker): NAWOO 형식(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	N/A
	일련번호 Serial No	N/A	<input type="checkbox"/> 주 변 등 Ambient Light	일련번호 Serial No.	N/A
	강 도 Intensity	N/A $\mu W/cm^2$	<input checked="" type="checkbox"/> 보 조 등 Glow Lamp	강 도 Intensity	1200 Lux
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					
					
검 사 자 Examined & Interpreted by			<input type="checkbox"/> Witnessed by		
LEVEL II M. S. YUN 					
책 임 자 Approved by			<input type="checkbox"/> Reviewed by		
LEVEL III Y. C. CHIN 			HP VALVES Medium & high pressure 300 ANSI API 6B & DIN <input checked="" type="checkbox"/> Reviewed F. W. HERS - Q.C. <input type="checkbox"/> Witnessed Date: 2010.05.27		

[illegible]



INSPECTION REPORT

DOC.NO. : DIR100614-01

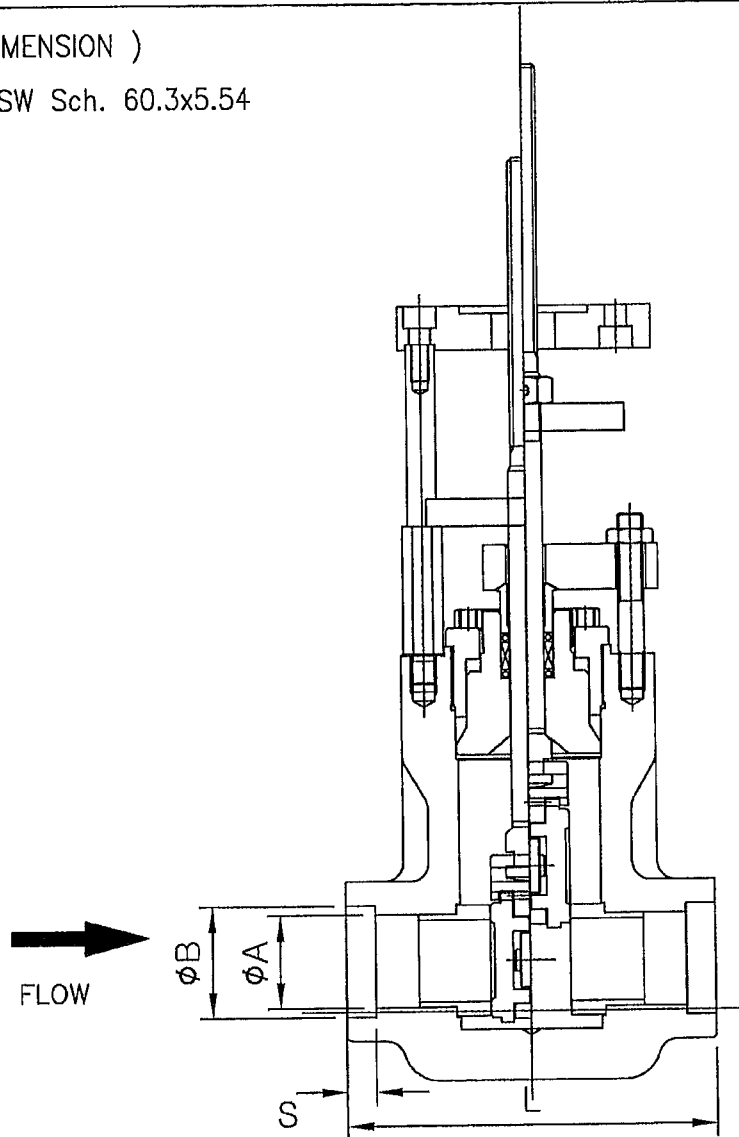
REV. NO. : 0

PAGE 7 OF 11

☐ 외 형도 (OUTLINE DIMENSION)

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

(S)A182-F91 1EA 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										
SN1000015	203.1	51.4	61.2	16.0										

☒ VALVES medium & high pressure valves
 acc. ANSI API, BS & DIN
☒ Reviewed E. Wolfers Q.C.
☐ Witnessed
☐ Date 21.07.15

REMARK

1. DIMENSION CHECK

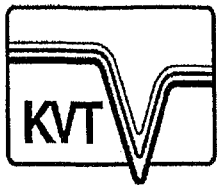
☐ SAMPLING CHECK

☒ 100% CHECK

PRE'D BY (QA.ENG'R)

VER'D BY (QA.MANAGER)

KEY VALVE TECHNOLOGIES LTD.

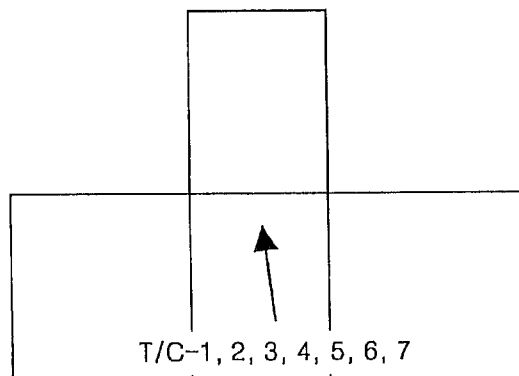


PREHEAT TREATMENT CERTIFICATE

PAGE: 1 OF 3

PROJECT NAME	Yajvinskaya CCPP	CERT NO.	PW - 0006 - 01		
CLIENT	HP VALVES	MATERIAL	(S)A182-F91		
HEATING RATE	SPEC: N/A °C/HR	ACTUAL: N/A °C/HR	COOLING RATE	SPEC: N/A °C/HR	ACTUAL: N/A °C/HR
HOLDING TEMP	SPEC: Min. 205°C	ACTUAL: 230~235 °C	HOLDING TIME	SPEC: N/A HR	ACTUAL: 1 H 10 M
HEAT SOURCE	<input type="checkbox"/> HEATING TORCH <input checked="" type="checkbox"/> ELECTRIC ELEMENT				
DATE	2010. 05. 04	START TIME :	AM 10 : 30		

THERMOCOUPLE (T/C) LOCATION



SN1000007, 14, 15, 20~23 (7ea)

2"-CL2500,CL900,1"- CL900

Heat No.: A03669

THERMOCOUPLES NO

APPLICATION COLORS

T/C-1	●	T/C-7	●
T/C-2	●		
T/C-3	●		
T/C-4	●		
T/C-5	●		
T/C-6	●		

REMARK:

HP VALVES P.S.G.V(SEAT)
(2" X CL900, 2500 X 25mm: 3 Sets, 1"XCL900 X16mm:4 Sets)

HP VALVES	Medium & high pressure valves acc. ANSI, API, BS & DIN
<input checked="" type="checkbox"/> Reviewed	F. Wolfers - O.C.
<input type="checkbox"/> Witnessed	
<input type="checkbox"/>	

Pre'd by

Rev'd by

Approved by



P.W.H.T CERTIFICATE









CERT NO: PW - 0006 - 01

DATE : 2010. 05.04

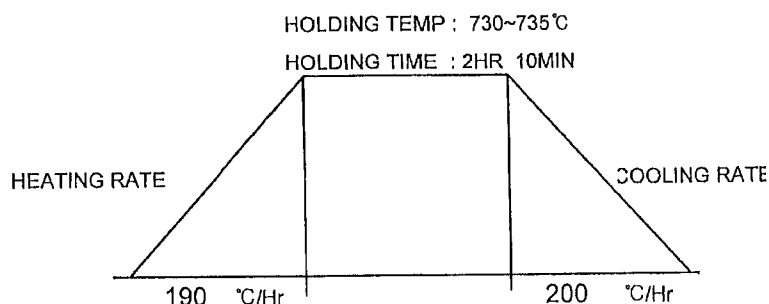
PAGE : 2 OF 3

PROJECT		Yajvinskaya CAPP	CLIENT	HP VALVES	MATERIAL	(S)A182-F91
NO	DESCRIPTION		THERMOCOUPLES NO.		SIZE x THK	
1	Parallel Slide Gate Valve		T/C - 1		2" x25mm	
2	Parallel Slide Gate Valve		T/C - 2		2" x25mm	
3	Parallel Slide Gate Valve		T/C - 3		2" x25mm	
4	Parallel Slide Gate Valve		T/C - 4		1" x16mm	
5	Parallel Slide Gate Valve		T/C - 5		1" x16mm	
6	Parallel Slide Gate Valve		T/C - 6		1" x16mm	
7	Parallel Slide Gate Valve		T/C - 7		1" x16mm	

HEAT TREATMENT CONDITION

CONDITION	SPEC	ACTUAL	SOAKING SKETCH AND LOCATION OF THERMOCOUPLES	THERMOCOUPLES NO					
LOADING TEMP (°C)	-	235	* See preheat treatment certificate Thermocouples location	APPLICATION COLORS					
HEATING RATE (°C/Hr)	Max.222	190		T/C-1			T/C-7		
HOLDING TEMP (°C)	700~760	730~735		T/C-2					
HOLDING TIME (HR)	Min. 1H	2H 10M		T/C-3					
COOLING RATE (°C/Hr)	Max.280	200		T/C-4					
UNLOADING TEMP (°C)	-	230		T/C-5					
HEAT SOURCE	ELECTRIC			T/C-6					
TEMP. MEASURING EQUIPMENT NO.	T95CK048								

SKETCH WITH DIAGRAM



REMARKS:

HP VALVES	Medium & high pressure valves acc. ANSI, API, BS & DIN
<input checked="" type="checkbox"/> Reviewed	F. Walters - Q.C.
<input checked="" type="checkbox"/> Witnessed	Date: 2010/5/10

Pre'd by

Rev'd by

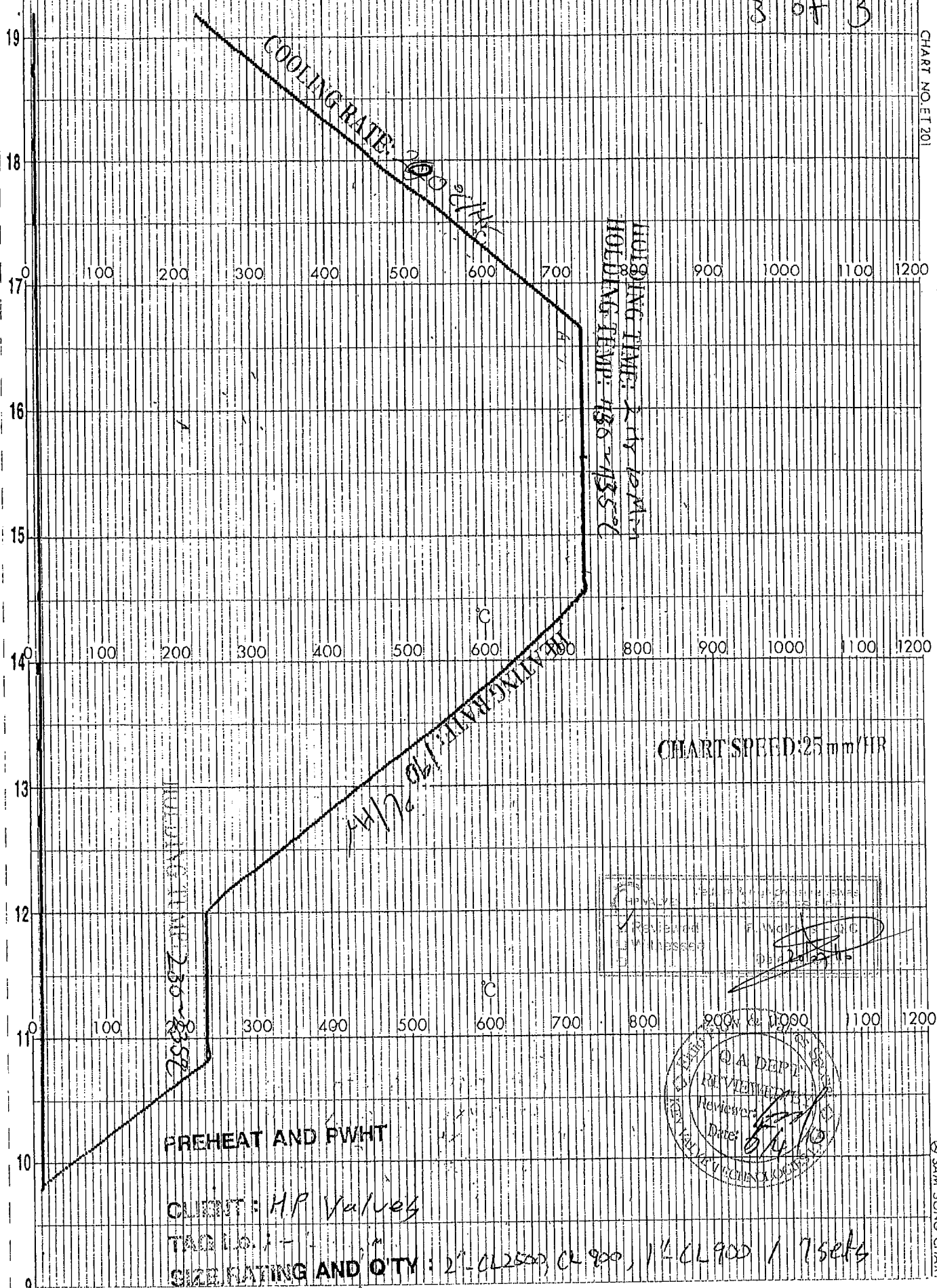
Approved by

T. YWON

PW-0006-0

3 of 3

CHART NO. ET 201



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