

**SAACKE**

## CONTRACT DATA SHEET

Contracts Engineer

E. W. HARRIS

VG6799

Issue 1

INTERNAL ISSUE ONLY

Site: A M G RESOURCES  
LLANELLI.

Customer Order No.

96048/109701/09

Date 4-4-96

Sheet No. 1 of 2

## CONTRACT DATA:

Date of Order 14-3-96 Del. Req'd. WK19

SHUTDOWN

NO

Delivery Promised WK23

PENALTY

NO

Penalty % per week to max. % Max. £

DRAWING APPROVAL REQUIRED

NO

See CS

Drawings required by

ASAP

COPIES SUB ORDERS REQUIRED

NO

Priced

Unpriced

No. off

COPIES TEST CERTS. REQUIRED

YES

Saacke  
C of C✓ Supplier  
C of C

Material

Calibr

Other  
See CS

CUSTOMER WITNESS TEST REQ.

NO

ISSUE ADVANCE ORDERS

YES

INSURANCE AUTH. INSP. REQ.

NO

ISSUE C.M.S.

YES

SPARES LIST REQUIRED

YES

2 Yrs

✓

Comm

✓

MANUFACTURE

YES

Customer Name and Address

Contact: MR J. UPTON

WELLMAN ROBBY LTD. NEWFIELD ROAD, OLDBURY, WEST MIDLANDS B69 3ET.

Agent/Consultant Name and Address

Contact:

Sub-Contractor 1 Name and Address

Contact:

Sub-Contractor 2 Name and Address

Contact:

Insurance Authority Name and Address

Contact:

## CONTRACT DRAWING ISSUE REQUIREMENT: (All Issues)

Title	Cust.	Agt/Const	Ins.Auth.	S.Con. 1	S.Con. 2	Service	Sales	File	Total
General Arrangement	4								4
Electrical Wiring	4					1			5
Electrical Schematic	4					1			5
Control Cabinet G.A.	4								4
Pneumatic Diagrams									
P. & L. Diagram									
Mounting Flange									
Gas Register	-	-	-	-	-				
C.S.	1					1	1		3
C.M.S.	-	-	-	-	-	1		1	2
Packing Note	1		-					1	2
Instruction Manual 1	1								1
Instruction Manual 2									
Instruction Manual 3									

SPECIAL

STANDARD

✓

TITLE 1 - TM6-2

TITLE 2 -

TITLE 3 -

## PRINT ROOM REQUISITION: (To be actioned on Issue 1 Only)

S 204 SHEET 1	4								4
S 202	4								4

Re-issue No.

Date

Reason for Re-issue

1

4-4-96

FIRST ISSUE

CHECKED: 4.4.96

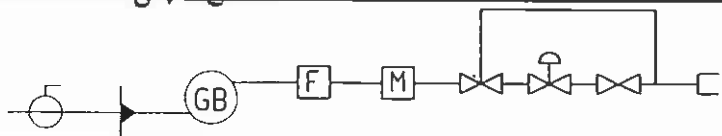
CIRCULATION	Contracts	Service	Technical	Production	Insp.	Sales	Spares	Print Room
TO:	CLERK	DNB	CDN ; CCE	SPC	CI	KDL	WME	PRO
BY & DATE								

CP 9/4

cep 060/02 'b'

# CALCULATION SHEET A

OUR REF. AG		VG 6799		DATE 4-4-96		ISSUE 1		ENG. EWH	
CUSTOMER WELLMAN ROBBY LTD						REF. Sheet 2 of 2			
SITE AMG RESOURCES, LLANELLI, WALES.									
INFORMATION GIVEN				ELECTRICAL SUPPLY		415 V 3 Ph 50 Hz 4 WIRE			
No. OF BOILERS				ONE		CONTROLS		240 V 1 Ph	
BOILER OR UNIT DUTY F & A 100°C				29000 lb/h 11343 kg/h		FUEL GRADE OIL		CLASS G CV 42.7 MJ/kg	
						GAS		NATURAL CV 38.62 MJ/m³	
WORKING PRESSURE				100 PSIG 6.9 bar		FEED WATER TEMP. °C			
SUPERHEAT						STEAM TEMP.			
No. OF FIRE TUBES				ONE		FLOW TEMP.			
INSIDE FIRE TUBE DIAMETER				1.210 m		RETURN TEMP.			
FURNACE LENGTH						AIR TEMP.			
BOILER DRAUGHT & EXHAUST DUCT LOSS				4.65 mmWG 9.59 mb		SITE ALTITUDE ABOVE SEA LEVEL			
BOILER EFFICIENCY				82 % OIL		79 % GAS			
CALCULATIONS				UNITS		STEAM RATING x LATENT HEAT GROSS CV x EFFICIENCY		HOT WATER FOR HW LATENT HEAT = UNITY	
1. TOTAL BOILER SPRAYED OIL QUANTITY				kg/h		= 11343 kg/h x 2.257 MJ/kg		= 731 kg/h	
2. BURNER SPRAYED OIL QUANTITY MAX				kg/h		731			
3. BURNER SPRAYED OIL QUANTITY MIN				kg/h		123			
4. TOTAL BOILER FUEL GAS QUANTITY				m³/h		= 11343 kg/h x 2.257 MJ/kg		= 839	
5. BURNER FUEL GAS QUANTITY MAX				m³/h		839			
6. BURNER FUEL GAS QUANTITY MIN				m³/h		141			
HIGH ALTITUDE/TEMPERATURE SIZING				SEE x 102/4		R=		I/R=	
7. COMBUSTION AIR (U.K.) SO x 13/				m³/h		9503			
8. FAN DESIGN AIR (U.K.) Cax 1.1				m³/h		10453			
9. FAN DESIGN AIR (SITE)									
ΔP BOILER				mmWG		118		118	
ΔP REGISTER X 124/4						125		(Q150-46) 165	
ΔP AIRBOX SAB 105						16		16	
ΔP SILENCER AS 80						12		12	
ΔASD									
ΔECONOMISER									
10. TOTAL ΔP						271		311	
11. TOTAL ΔP + 15% DESIGN MARGIN						312		358	
BURNER UNIT SIZE				CD80 - 5375 gives 400 mmWG					
MOTOR RATING BURNER / F.D. FAN				5.5 - 15.0					
BURNER TURNDOWN				5.94:1		Slot 10.5 mm		Orifice 7 mm Valve 14 mm	
BURNER QUARL GAP				Q150-46 mm gap gives 165 mmWG.					
GTL SIZING X161/5									
GAS TRAIN INLET PRESSURE (Assumed)				100 mbar					
GAS TRAIN SIZE (FROM X161/3 SHEET 3)				= 100 (GTL Inlet Pressure) - 12.68 (Nozzle ΔP) - 9.55 (Boiler ΔP) = 77.77 mbar					
				= GTL 80H/100W/L 2.3 C/W 100 MM G.C.V.					
MIN ALLOWABLE GAS INLET PRESSURE CHECK				= 53 (From X161/3 Sht.3) + 9.55 (Boiler ΔP) + 12.68 (Nozzle ΔP) = 75.23 mbar					
GOVERNED PRESSURE				Actual Inlet Pressure ÷ Min. Inlet Pressure ≥ 1.1					
				= 81.27 (Min. Inlet Pressure) - 22 (Valve A ΔP) = 59.27 (≥ 120 mbar.)					



CHECKED		CIRCULATION		Re-Iss. No.	DATE	REASON
DATE	4.4.96	SALES	KDL	1	4-4-96	FIRST ISSUE
BY	<i>[Signature]</i>	SERVICE	DNB			

SK179



# SAACKE

ORDER FOR PUMP UNITS, HEATER  
UNITS, GOVERNORS, BOOSTERS &  
FILTERS

Engineer **E. W. HARRIS**

Customer Order No.

**SEE SHEET 1**

VG **6799**

Issue

Date **4-4-96**

Sheet No. **3** of **4**

Customer

**WELLMAN ROBEY LTD.**

Site

**A.M.G. RESOURCES  
LUANELLI**

Delivery

## HEATING MEDIUM (Primary)

### STEAM

Saturated / S. heat

Pressure bar

Temperature °C

SATURATED

### HOT WATER

Flow temp. °C

Return temp. °C

Pressure bar

## LIQUID FUEL

Type

SRI at 38°C

OIL

Viscosity

Supply pressure

Discharge pressure

Supply temperature

Discharge temperature

bar

°C

°C

°C

bar

## Please supply :-

### 1) Outflow heater

No. Off

Type/size

VT

Thermostat steam

Thermostat HW

Range

Thermostatic valve

Thermostat electric

Range

Heater rating

Max. oil flow rate (steam/HW)

Max. oil flow rate (electric)

Discharge temp. at max. flow rate

Type

Type

°C

Type/size

Type

°C

kg/h

kg/h

kg/h

°C

DRG. No.

### 2) Line heater

No. Off

Type/size

VL

Thermostat steam

Thermostat HW

Range

Thermostatic valve

Thermostat electric

Range

Heater rating

Max. oil flow rate (steam HW)

Max. oil flow rate (electric)

Discharge temp. at max. flow rate

Max. oil pressure

Type

Type

°C

Type/size

Type

°C

kg/h

kg/h

kg/h

°C

OTHER DETAILS;

DRG. No.

### 3) Pumping set

No. Off

Type/size

P

Filter duplex

Filter simplex

Pump motor rating

Max. discharge pressure

Viscosity at pump

Automatic changeover

OTHER DETAILS;

DRG. No.

### 4) Combined pumping & heating set

No. Off

Type

PDF

VLO

As items 2 & 3 assembled

Vertically

Horizontally

OTHER DETAILS;

DRG. No.

### 5) Oil fire valve

No. Off

Type/size

FV

OTHER DETAILS;

DRG. No.

### 6) Gas fire valve

No. Off

Type/size

FV

OTHER DETAILS

DRG. No.

## ELECTRICAL SUPPLY

Power voltage

Power frequency

Power No. of phases

Power supply lines

Control voltage

Electrical specification

Area specification

Paint specification

Hz

415 AC

50

3

4 WIRE

240 AC

STANDARD

STANDARD

H. DQC GREY

## GASEOUS FUEL

Type

S.G.

mbar

Supply pressure

Discharge pressure

Flow

m<sup>3</sup>/h

NATURAL

0.6

100

939

### 7) Fire detector

No. Off

Type

FD

OTHER DETAILS;

DRG. No.

### 8) Gas isolating valves with micro switch

No. Off

Type/size

Flange

OTHER DETAILS;

DRG. No.

### 9) Oil isolating valves with micro switch

No. Off

Type

Connection

OTHER DETAILS;

DRG. No.

### 10) Ring main pressure controller

No. Off

Type

Size

HDR

OTHER DETAILS;

DRG. No.

### 11) Gas train

No. Off

Type/size

mbar

Electric/pneumatic

Flow facing gauges

Inlet gas pressure

Pressure gauge range

Inlet & HP leak switches range

LP Leak switches range

OTHER DETAILS; GOVERNED PRESSURE = 59 mbar

DRG. No.

### 12) Gas filter

No. Off

Type/size

Flange

GF

OTHER DETAILS;

DRG. No.

### 13) Gas booster

No. Off

Type/size

Flange

kW

Type

Connection

Motor rating

Inlet pressure sw.

OTHER DETAILS;

DRG. No.

### 14) Gas governor

No. Off

Type/size

Flange

OTHER DETAILS

DRG. No.

## LOOSE ITEMS

Wall mounted contactor

No. Off

TYPE

RANGE

Reissue No.

DATE

REASON

1

4-4-96

FIRST ISSUE

This order continues on Supplementary Order Sheet No. \_\_\_\_\_

CDS 030/12 a

CIRCULATION	CUSTOMER	CONTRACTS	SERVICE x2	TECH x3	SALES	INSPECTION	PRODUCTION
DATE & ISSUE No.			DNB		KDL		
BY							

