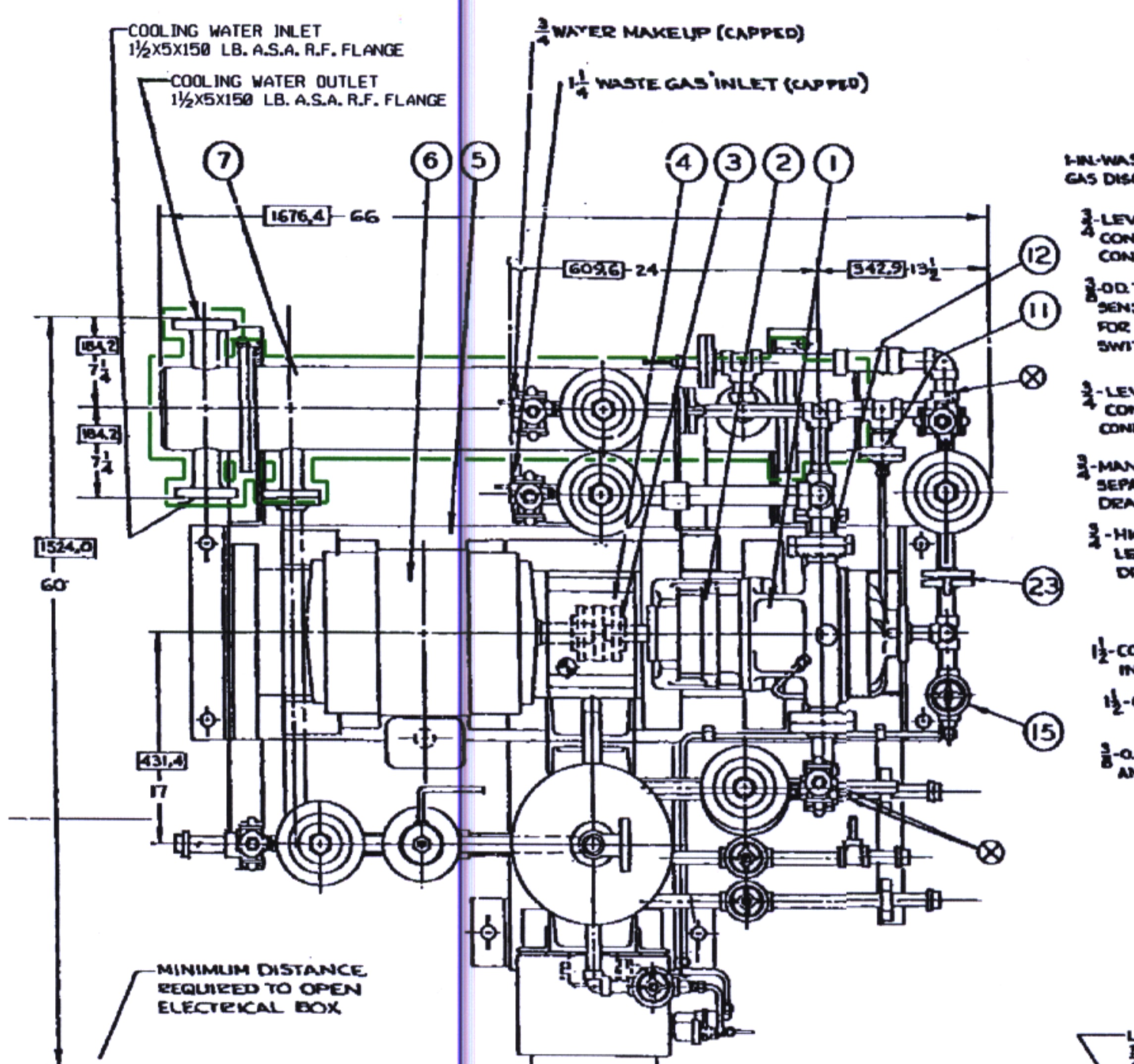
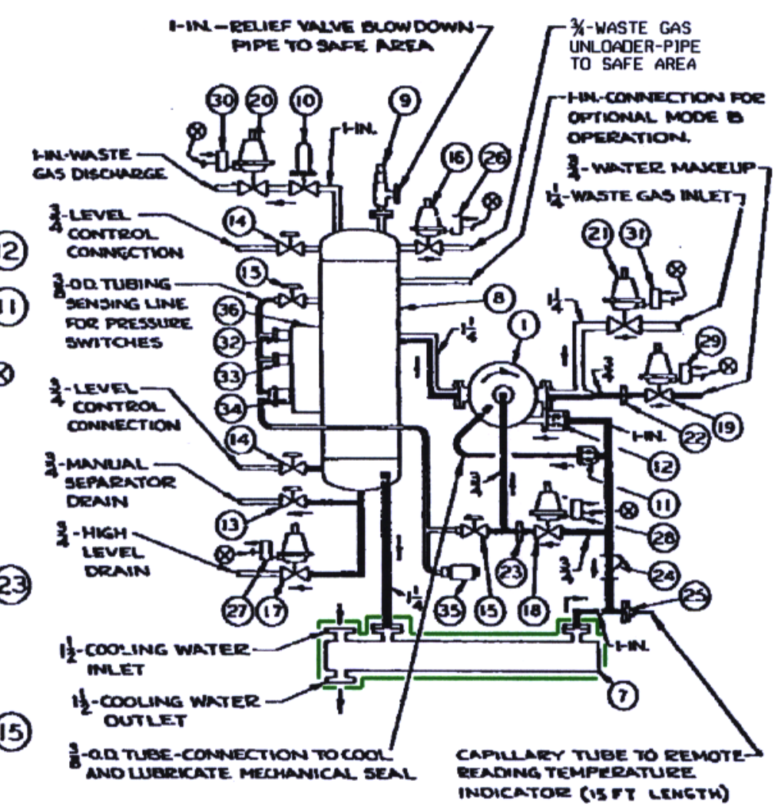
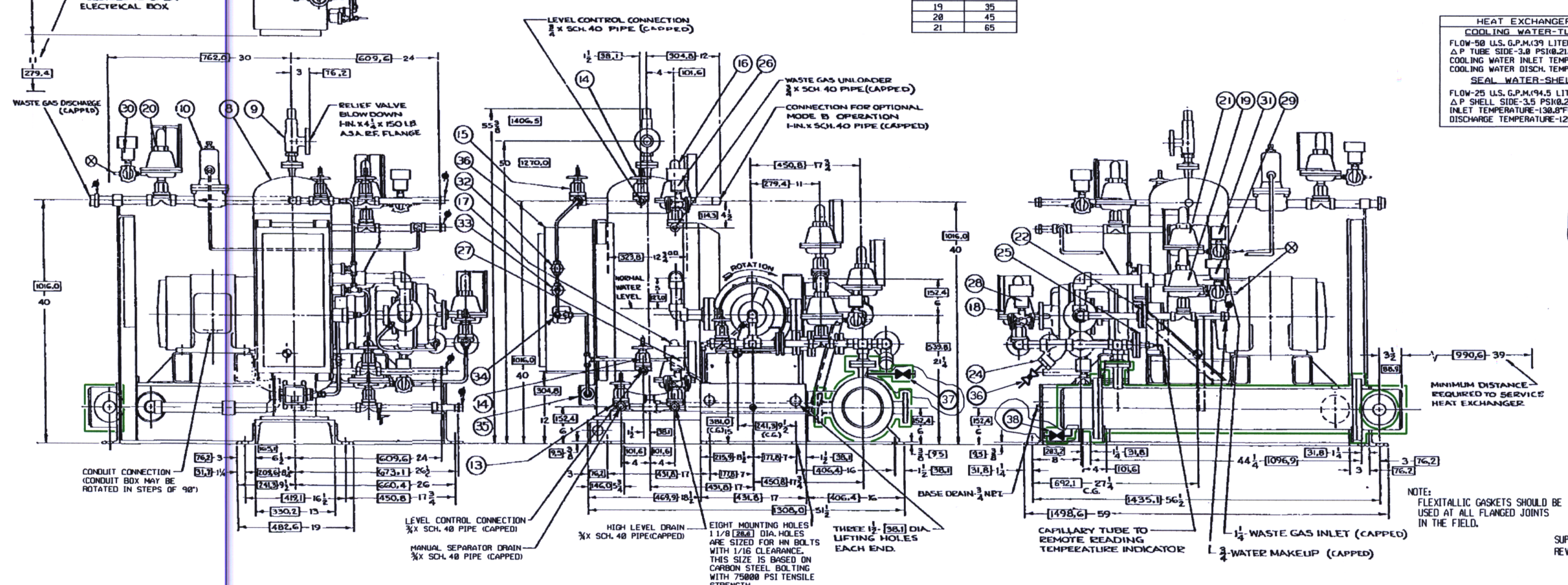




UNIT FLOW DIAGRAM
= SEAL WATER PIPING
= WASTE GAS PIPING



1/4" = 1'-0" 0' 5' 10' 15' 20'

LIST OF MATERIAL

PC NO.	NAME OF PIECE	QTY	SIZE	WT. LBS. APPROX.	NASH ENGR. PART NO.	MATERIAL AND SPECIFICATION	MANUFACTURER AND MODEL
1	PUMP COMPRESSOR-AL-623C	1		120.00		CAST BRONZE	NASH ENGINEERING CO.
1A	BRACKET AND AIR HEAD	1			75-0002	CAST BRONZE - ASME SB-61	
1B	LOBE	1			73-0007	CAST BRONZE - ASME SB-61	
1C	CONE	1			74-0005	CAST BRONZE - ASME SB-62	
1D	ROTOR	1			C-8996 UG	CAST BRONZE-SIMILAR TO ASTM B-143 GR 1B	
2	PEDESTAL	1		67.00	12-0771	DUCTILE CAST IRON	
2A	BRACKET	1			A-5903 RRL	DUCTILE CAST IRON-SIMILAR TO ASTM A-395	
2B	BEARING-PUMP END	1			BB-0331	SAE 52100 OR EQUIV.	MFG. IDENT. NO AFBMA-35BE32XPXOM
2C	BEARING-DRIVE END	1			BB-0332	SAE 52100 OR EQUIV.	MFG. IDENT. NO AFBMA-35BE33XPXOM
2D	SHAFT	1			12-0769 SAQ	S.STEEL, TYPE 347-SIMILAR TO ASTM A-276 TYPE 347	NASH ENGINEERING CO.
3	COUPLING	1		14.00	CP-1523-441524-G	STEEL	THOMAS MOD. 163 DBZ
4	GUARD COUPLING	1		10.00	12-1186 Y1	SHEET STEEL -SIMILAR TO ASTM A-283	NASH ENGINEERING CO.
5	BASE	1		525.00	14-3505 SH	HOT ROLLED STEEL-SIMILAR TO ASTM A-283	NASH ENGINEERING CO.
6	MOTOR	1		240.00			SEE MOTOR DATA
7	HEAT EXCHANGER	1		250.00	76-0014	STEEL SHELL 316 STAINLESS STEEL TUBES	A.S.I.D. 06042 EF TWO PASS
8	SEPARATOR	1		282.00	74-0006	CARBON STEEL -ASME SA-106 GR.A	AMERICAN STANDARD
9	VALVE RELIEF	1	3/4x1-IN	20.00	76-0015	CAST STEEL BODY -ASME SA-216 WCB	J.E. LONERGAN TYPE LCT-11
10	VALVE DISCHARGE CONTROL	1	1-IN.	21.00	76-0016	C.S. BODY, COMPOSITION TRIM-ASME SA-216 WCB	FISHER MOD. 98H
11	VALVE CONTROL WATER-MECH. SEAL	1	3/8	.25	PF-3610	BRASS, NICKEL PLATED-SIMILAR TO ASTM B-16	DOLE 1/4 U.S. G.P.M.
12	VALVE CONTROL WATER-CONE SEAL	1	3/4	.38	PF-3519	BRASS, NICKEL PLATED-SIMILAR TO ASTM B-16	DOLE 7 U.S. G.P.M.
13	VALVE MANUAL-SEPARATOR DRAIN	1	3/4	3.00	76-0017	C.S. BODY, C.S. BONNET, -ASME SA-216 WCB	GRINNELL NO 2472 BODY MODEL 51 BONNET
14	VALVE MANUAL-ISOLATION-LEVEL CONTROLS	2	3/4	3.00	76-0017	ETHYLENE-PROPYLENE	
15	VALVE MANUAL-ISOLATION-PRESS. SWITCHES	2	3/4	3.00	76-0017	RUBBER DIAPHRAGM	
* 16	VALVE AUTO-GAS UNLOADER	1	3/4	19.50	76-0112	C.S. BODY, C.S. BONNET, -ASME SA-216 WCB	GRINNELL NO 2472 BODY MODEL 51 BONNET AND GRINNELL NO 3212 NORMALLY CLOSED AIR MOTOR
* 17	VALVE AUTO - HIGH LEVEL DRAIN	1	3/4	19.50	76-0112	ETHYLENE-PROPYLENE	
18	VALVE AUTO - COMPENSATED SEAL	1	3/4	16.50	76-0018	RUBBER DIAPHRAGM	
* 19	VALVE AUTO - WATER MAKEUP	1	3/4	19.50	76-0112		
20	VALVE AUTO - GAS DISCHARGE	1	1-IN.	18.00	76-0019		
* 21	VALVE AUTO - GAS INLET	1	1-1/2	22.75	76-0020		
22	PLATE ORIFICE - WATER MAKEUP	1	3/4	.25	76-0023	STAINLESS STEEL, TYPE 316	DANIEL NO 520, 1/8 DIA. ORIFICE
23	PLATE ORIFICE - COMPENSATED SEAL	1	3/4	.25	76-0024	STAINLESS STEEL, TYPE 316	DANIEL NO 520, 3/8 DIA. ORIFICE
24	STRAINER	1	1-IN.	6.50	76-0021	C.S. BODY, S.S. SCREEN -ASME SA-216 WCB	MUESSCO NO 862
25	TEMPERATURE INDICATOR	1	1-IN.	6.00	76-0022	STAINLESS STEEL, TYPE 316 (15FT LENGTH)	ASHCROFT NO 6435TWT (1377)
26	VALVE SOLENOID - GAS UNLOADER	1	3/8	4.50	EE-8490		ASCO-831657 THREE WAY (N.O.)
27	VALVE SOLENOID - HIGH LEVEL DRAIN	1	3/8	4.50	EE-8489		
28	VALVE SOLENOID - COMPENSATED SEAL	1	3/8	4.50	EE-8489	BRASS, BUNA N VALVE SEAT	ASCO-831655 THREE WAY (N.C.)
29	VALVE SOLENOID - WATER MAKEUP	1	3/8	4.50	EE-8489		
30	VALVE SOLENOID - WASTE GAS DISCHARGE	1	3/8	4.50	EE-8489		
31	VALVE SOLENOID - WASTE GAS INLET	1	3/8	4.50	EE-8489		
32	SWITCH PRESSURE - HIGH SEPARATOR PRESS.	1	1/4	.38	EE-9608	S.STEEL TRIM, POLYIMIDE DIAPHRAGM	C.C.S. DUAL SNAP MOD. 611GC
33	SWITCH PRESSURE - LOW SEPARATOR PRESS.	1	1/4	.38	EE-9609	S.STEEL TRIM, POLYIMIDE DIAPHRAGM	C.C.S. DUAL SNAP MOD. 611GC
34	SWITCH DIFFERENTIAL PRESSURE	1	1/4	1.00	EE-9610	BRASS TRIM, POLYIMIDE DIAPHRAGM	C.C.S. DUAL SNAP MOD. 642 DNB
35	SWITCH PRESSURE - GAS UNLOAD	1	1/2	2.00	EE-9611	S.STEEL WETTED MAT., CAST AL. HOUSING	C.C.S. DUAL SNAP MOD. 604 GC1
36	BOX - ELECTRICAL CONNECTION	1		48.00	13-4258	SHEET STEEL	McKINSTRY NO 55-24129
37	VALVE MANUAL - VENT	2	3/4			CAST IRON	
38	VALVE MANUAL - DRAIN	2	3/8			STAINLESS STEEL, TYPE 316	

*PC. NO.S 16,17,19&21 ARE FURNISHED WITH HONEYWELL DTE6-2RN, DPDT LIMIT SWITCHES.

EQUIPMENT I.D. CHART

PC*	COMPRESSOR 'A'	COMPRESSOR 'B'
1	XGC0001A-WG	XGC0001B-WG
6	XGC0001A-M-WG	XGC0001B-M-WG
7	XGC0001A-HE1-WG	XGC0001B-HE1-WG
8	XGC0001A-MS1-WG	XGC0001B-MS1-WG
9	XVR-17804-WG	XVR-17810-WG
10	XVT-17803-WG	XVT-17809-WG
11	FCV-17805-WG	FCV-17811-WG
12	FCV-17806-WG	FCV-17812-WG
13	XVD-17802-WG	XVD-17808-WG
14	ILT-1030-HR-WG	ILT-1032-HR-WG
14A	ILT-1030-LR-WG	ILT-1032-LR-WG
15	XVD-17801-WG	XVD-17807-WG
15A	IPS-1030C-HR-WG	IPS-1032C-HR-WG
16	PCV-1030C-WG	PCV-1032C-WG
17	LCV-1030A-WG	LCV-1032A-WG
18	FCV-1028C-WG	FCV-1035C-WG
19	LCV-1030B-WG	LCV-1032B-WG
20	PCV-1030E-WG	PCV-1032E-WG
21	PCV-1030D-WG	PCV-1032D-WG
22		
23		
24	XGC0001A-ST1-WG	XGC0001B-ST1-WG
25	ITW-1031-WG ITI-1031-WG	ITW-1033-WG ITI-1033-WG
26	PCV-1030C-20A-WG	PCV-1032C-20A-WG
27	LCV-1030A-20A-WG	LCV-1032A-20A-WG
28	FCV-1028C-20A-WG	FCV-1035C-20A-WG
29	LCV-1030B-20A-WG	LCV-1032B-20A-WG
30	PCV-1030E-20A-WG	PCV-1032E-20A-WG
31	PCV-1030D-20A-WG	PCV-1032D-20A-WG
32	IPS-1028B-WG	IPS-1035B-WG
33	IPS-1028A-WG	IPS-1035A-WG
34	IPS-1028C-WG	IPS-1035C-WG
35	IPS-1030C-WG	IPS-1032C-WG
36	XVT-17833-WG	XVT-17832-WG
37	XVG-17813A-WG	XVG-17813B-WG
38	XVT-17814A-WG	XVT-17814B-WG

WEIGHTS - CALC. PER ASSEMBLY

DESCRIPTION OF ITEMS	APPROX. WT. IN LBS.
PUMP AND PEDESTAL	187
BASE	525
MOTOR	240
HEAT EXCHANGER	250
SEPARATOR	282
ACCESSORIES, PIPING, FITTINGS AND FLANGES	401
TOTAL DRY WEIGHT	1885
TOTAL OPERATING WT.	2030

INSTRUMENT AIR PRESSURE TO OPEN VALVES.

PC. NO.	AIR REQ'D
16	35
17	35
18	30
19	35
20	45
21	65

NOTES:
1. GAS INLET VALVES ARE 1½" BODY EQUIPPED WITH SOCKET WELDING REDUCING INSERTS TO ALLOW INSTALLATION IN 1¼" SKID.

DESIGN DATA

SYSTEM-WASTE GAS PROCESSING
TYPE-COUPLING DRIVE, MOTOR DRIVEN
R.P.M. PUMP-3600, OPERATION
SUCTION PRESS-0.5 PSIG(0.035 Kg/cm²)
SUCTION TEMP.-130°F(55°C)MAXIMUM
CAPACITY-40 scfm(19.0 LITERS/SEC)
DISCHARGE PRESS.-110 PSIG(7.05 Kg/cm²)

HEAT EXCHANGER DATA

COOLING WATER-TUBE SIDE
FLOW-50 U.S. G.P.M.(39 LITERS/MIN.)
Δ P TUBE SIDE-3.0 PSI(0.212 Kg/cm²)
COOLING WATER INLET TEMP.-110°F(43.3°C)
COOLING WATER DISCH. TEMP.-115.4°F(46.3°C)

SEAL WATER-SHELL SIDE
FLOW-25 U.S. G.P.M.(94.5 LITERS/MIN.)
Δ P SHELL SIDE-3.5 PSI(0.247 Kg/cm²)
INLET TEMPERATURE-130.8°F(54.8°C)
DISCHARGE TEMPERATURE-120°F(49°C)

MOTOR DATA

MANUFACTURER — WESTINGHOUSE ELECTRIC
MOTOR DWG. NO. — GM-9408A
FRAME - 256T H.P. - 25 RPM — 3600
VOLTS — 460 PHASE — 3 CYCLE — 60
RISE — 90°C. AMB. TEMP. — 40°C.
ENCLOSURE — DRIPPROOF
TREATMENT — CLASS B POWERHOUSE INSULATION - SF 1.15

NASH ENGR. CO. REFERENCE DRAWINGS

DWG TITLE	DWG. NO.
STUFFING BOX & MECHANICAL SEAL	72-0002
ELECTRICAL WIRING DIAGRAM	14-3383
PERFORMANCE CURVE	EN-1113-315

NOTES:
1. FOR REFERENCES, SEE DWG. D-302-001 AND E-302-002, FLOW DIAGRAM LEGEND.

CODE-ASME SECTION III, CLASS 3
SCE&G CL OR EXCEPT HX TUBE SIDE CL. 3
TUBING - COPPER 0.065 WALL, ASME SB-75.
PIPING - SEAMLESS STEEL, SCH. 40, ASME SA-106
FITTINGS - FORGED STEEL, 2000 LB. SOCKET WELD, ASME SA-105 GB II
FLANGES - FORGED STEEL, 150 LB. A.S.A. RF. SOCKET WELD, ASME SA-181 GR. 1.
FLANGE BOLTS - ASME SA-193 GR. B-7
FLANGE NUTS - ASME SA 94 GR. 2
⊕ APPROXIMATE CENTER OF GRAVITY, OPERATING (C.G.)
⊗ INSTRUMENT AIR SUPPLY - 85 PSIG MAX.
PIPING CONNECTION DIMENSIONS ARE APPROXIMATE.
FOUNDATION BOLTS ARE NOT FURNISHED BY NASH ENGR. CO.
DIMENSIONS ARE IN INCHES.
DIMENSIONS ▭ ARE IN MILLIMETERS.
PIPES SHOWN WITH Ø ARE FURNISHED CAPPED.
CUSTOMER TO FIELD CUT TO LENGTH SHOWN.
NOTE: SEPARATOR FIELD CONNECTIONS ARE CAPPED AT NASH WITH EXTRA LENGTH TO BE CUT TO LENGTH AT ERECTION SITE.
NOTE THESE LINES ARE CARBON STEEL SME SA106. PROPER PROCEDURES SHOULD BE APPLIED IF WELDING TO STAINLESS STEEL.

NOTE:
FLEXITALLIC GASKETS SHOULD BE USED AT ALL FLANGED JOINTS IN THE FIELD.

SUPERSEDES DWG. 75-0016
REV. ½ DATED 5-31-73

D-13

SPIN NO. CGEGHAPCP-01&02

DRAWING LEGIBILITY
CLASS 1
SCE&G CAD ENHANCED

PLEX Drawing TR00160-006

ASSEMBLY & UNIT FLOW DIAGRAM
AL-623C WASTE GAS COMPRESSOR
VENDOR DRAWING NO.: 75-0016

DESIGN ENGINEERING
SCANA A SCANA COMPANY — V. C. SUMMER NUCLEAR STATION JENKINSVILLE, S. C.

MADE	CHECKED	LE APPROVAL
ACI	RHM	GAR

SCALE: NO SCALE — DRAWING NUMBER: 1MS-09-012 — SHT. NUMBER: — REV: 11

NO.	DATE	BY	REVISION	CKD. BY	LE APPROVAL
11	01/17/01	JTS	REVISED PER ECR-50369	MGR	TOC
10	03/31/98	JTS	REVISED PER CGSS-97-0662	MGR	LEK
9	04/20/94	AVN	REVISED TAG NO.'S PER CGSS-94-0298	MGR	JEW
8	04/02/93	RHM	REVISED PER CGSS-93-1023	DVW	GAR
7	02/16/93	ACI	REVISED PER CGSS-29505-DE	RHM	GAR