WC-400227

CAD GENERATED DRAWING

Δ	CHANGE DESCRIPTION	AP	ZONE

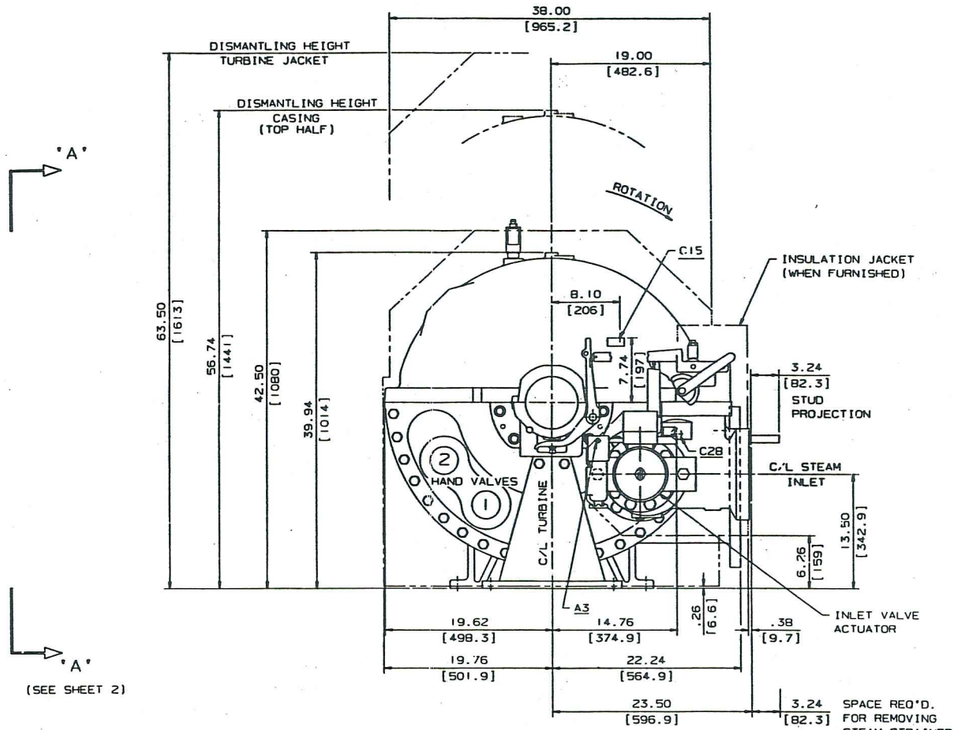
PURCHASER'S CONNECTIONS

A3 - 1/4" NPT PNEUMATIC CONNECTION FOR INLET VALVE ACTUATOR SUPPLY. 30-145 PSIG.

C15 - 1/2" NPT CONDUIT CONNECTION FOR LIMIT SWITCH.

C28 - 1/2" NPT CONDUIT CONNECTION FOR INLET VALVE ACTUATOR.

4 MA - 4285 RPM
20 MA - 4737 RPM



INSTALLATION NOTES

1. TURBINE COMPLETE WITH DRIVEN EQUIPMENT SHOULD BE SUPPORTED ON A RIGID AND SUBSTANTIAL FOUNDATION.
2. ALL FORCES AND MOMENTS EXERTED BY STEAM PIPING CONNECTED TO THE TURBINE MUST NOT EXCEED LIMITS SPECIFIED BY PART 8 OF NEMA STANDARD SM23-1991.
3. A RELIEF VALVE SHOULD BE INSTALLED BETWEEN THE TURBINE EXHAUST CONNECTION AND THE FIRST SHUT-OFF VALVE. THE VALVE SHOULD BE DESIGNED FOR FULL RELIEF OF THE MAXIMUM STEAM FLOW THROUGH THE INLET LINE.
4. A STEAM TRAP SHOULD BE INSTALLED IN THE LOW POINT OF THE EXHAUST LINE TO PREVENT ACCUMULATION OF WATER IN THE TURBINE CASING. WHEN USED FOR STAND-BY SERVICE, AN ADDITIONAL STEAM TRAP IS REQUIRED IN THE INLET LINE.
5. DOWEL HOLES ARE TO BE REAMED AND DOWELS FITTED AFTER FINAL COUPLING ALIGNMENT.
6. WHEN VIEWED FROM THE GOVERNOR END (SEE ROTATION ARROW), ROTATION IS:
   ■ CLOCKWISE ☐ COUNTER-CLOCKWISE
7. TURBINE INSULATION AND JACKETING INCLUDED: ☐ YES ■ NO
   TURBINE BLANKET TYPE INSULATION INCLUDED: ☐ YES ■ NO
8. VERTICAL POSITIONING SCREWS FURNISHED: ☐ YES ■ NO

GENERAL NOTES

THE FOLLOWING ITEMS NOT FURNISHED BY ELLIOTT COMPANY ARE REQUIRED TO COMPLETE INSTALLATION OF THE TURBINE: INLET, EXHAUST, DRAIN AND WATER PIPING, FITTINGS, RELIEF VALVE, MISCELLANEOUS VALVES AND GAUGES, BOLTS FOR EXHAUST CONNECTION, FOUNDATION BOLTS, NUTS, WASHERS, DOWELS, SHIMS AND STEAM TRAP.

BOLTS IN INLET AND EXHAUST CONNECTIONS TO STRADDLE CENTERLINE AS SHOWN. INLET AND EXHAUST CONNECTIONS WILL MATCH WITH ANSI STANDARD CONNECTIONS. INLET STUDS AND NUTS FURNISHED BY ELLIOTT COMPANY.

TURBINE BEARINGS: ■ PRESSURE LUBRICATED ☐ RING OILED

ALL DIMENSIONS ABOVE THE DIMENSION LINES ARE IN INCHES, BELOW THE DIMENSION LINES ARE IN MILLIMETRES.

		APPROX. MASS	lbs	kg
		NET	2300	1045
		SHIPPING	2600	1180
		ROTOR	432	196
		CASING (TOP HALF)	375	170
OIL PIPING	XC-412058			
PURCHASER'S CONNECTIONS	X-664415			
REFERENCE DRAWINGS	DWG. NO.	INSTRUCTION BOOK: 100M		

NAMEPLATE RATING 1425 HP / 1000 KW @ TURBINE 4511 REV/MIN

TURBINE SERIAL NO. C302311

INLET PRESS.(GAGE) 600 PSI INLET TEMP. 750 °F / °C EXHAUST PRESS.(GAGE) 25 PSI

HAND VALVES FURNISHED: TWO

MINIMUM	NO. 2 CLOSED	399	HP / KW @	4511	REV/MIN	INLET PRESS.(GAGE) 600 PSI	INLET TEMP. 750 °F / °C	EXHAUST PRESS.(GAGE) 25 PSI
NORMAL	NO. 1 OPEN	280 / 985	HP / KW @	4511	REV/MIN	INLET PRESS.(GAGE) 600 PSI	INLET TEMP. 750 °F / °C	EXHAUST PRESS.(GAGE) 25 PSI
MAXIMUM	NO 2 OPEN	690 / 1425 / 1000	HP / KW @	4511	REV/MIN	INLET PRESS.(GAGE) 600 PSI	INLET TEMP. 750 °F / °C	EXHAUST PRESS.(GAGE) 25 PSI
	NC.		HP / KW @		REV/MIN	INLET PRESS.(GAGE) PSI	INLET TEMP. °F / °C	EXHAUST PRESS.(GAGE) PSI

PURCHASER'S IDENTIFICATION

TURBINE REPLACEMENT

CERTIFIED FOR CONSTRUCTION

PURCH
PURCHAS
USER CONCORD STEAM
S.O. C302311 G.O. NY930022 SERIAL C302311

FOR APPROVAL ☐
AVOID DELAY-TO ESTABLISH / MAINTAIN
SHIPPING PROMISE ONE APPROVED PRINT MUST BE RETURNED
BY _____ DATE _____

FOR RECORD ■
ANY REQUESTED CHANGE OF THIS EQUIPMENT WILL RESULT IN
1 CONTRACT PRICE ADJUSTMENT
2 EXTENDED SHIPPING PROMISE AS THIS CONTRACT IS IN MANUFACTURING PROCESS
BY R BOYER DATE 2-5-93

THIS DRAWING SUPERSEDES
DWG. NO. _____ DATED _____

SUPERSEDED BY _____

SUPERSEDES _____

DYRPE TURBINE OUTLINE

DR CARLSON	
CK GISHNOCK	
ENG AP T.R.	
ENG AP	
ENG AP	
DATE 1-26-93	
S.O. C302311	
SCALE N.T.S.	
SIMILAR TO	

ELLIOTT.

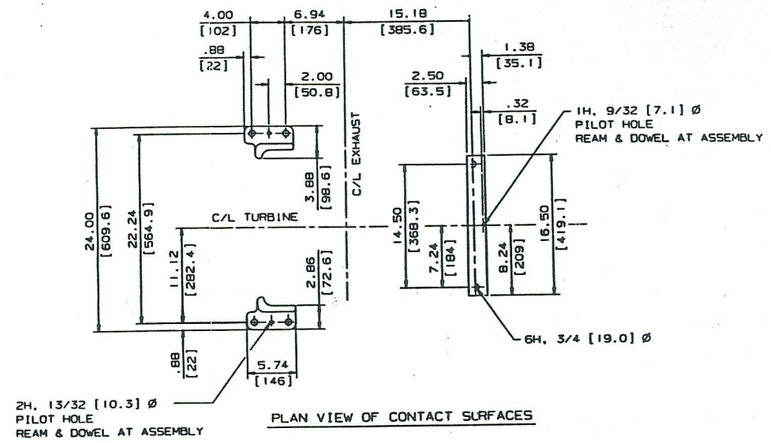
CAD GENERATED DRAWING

ASSOCIATE PLANT IDENTIFICATION

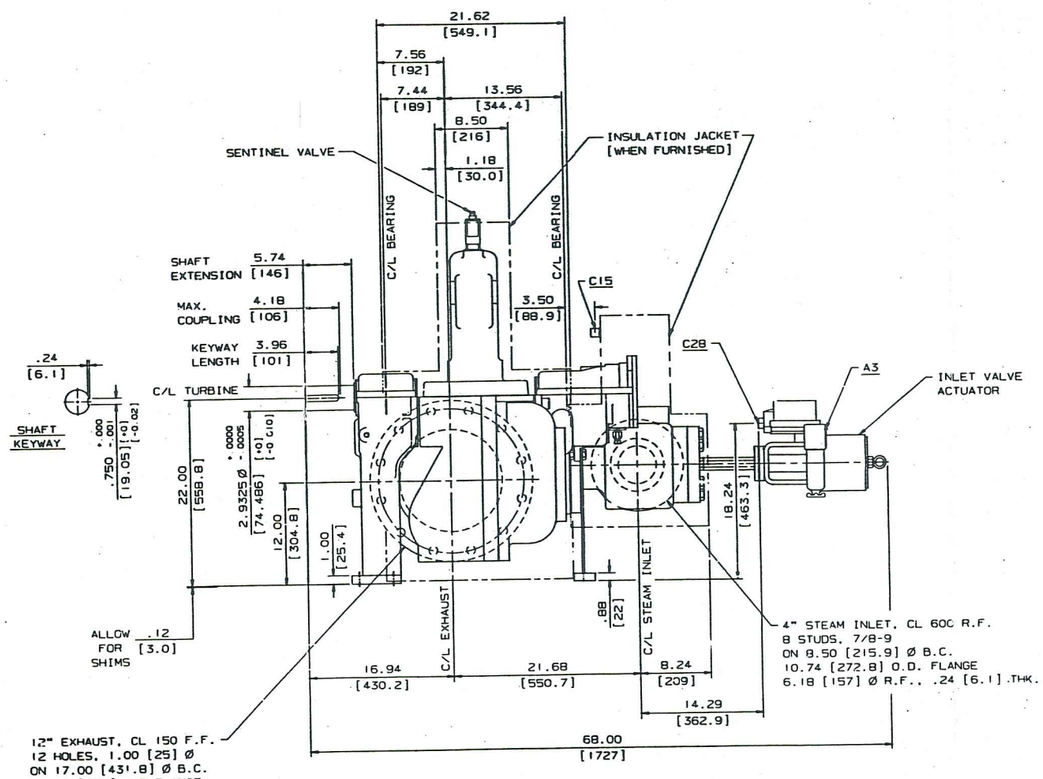
SHEET 1 OF 2

WC-400227 REV 0

WC-400227



PLAN VIEW OF CONTACT SURFACES



VIEW 'A-A'

CAD GENERATED DRAWING

△	CHANGE DESCRIPTION	AP	ZONE

DYRPE TURBINE OUTLINE

DATE 1-26-93
S.O. C30231
SCALE N.T.S.
SIMILAR TO
PROCESS SPEC

ASSOCIATE PLANT IDENTIFICATION

SHEET 2 OF 2

ELLIOTT.

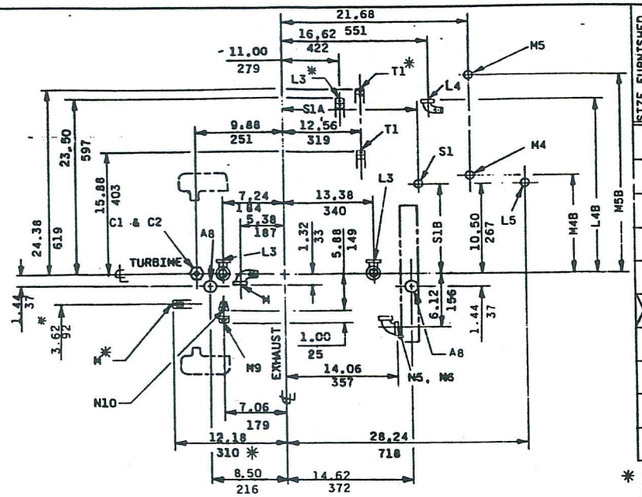
CAD GENERATED DRAWING

WC-400227 | REV 0

SUPERSEDED BY

SUPERSEDES

△	CHANGE DESCRIPTION	AP



SIZE FURNISHED	CLASS TURBINE	DIAMETER	ANSI RATING	S1A	L4B	M4B	M5B	S1B	L5C	M4C	M4C*	M5C	M5C*	S1C	S1C*
				17.00	18.24	11.00	19.44	10.50		10.00	5.50	10.12	5.62	16.38	21.88
				432	464	279	494	267		254	140	257	142	416	556
		2	300	17.06	18.34	11.00	19.44	10.50	10.00	10.00	5.50	10.12	5.62	16.38	21.88
				433	464	279	494	267	254	254	140	257	142	416	556
				17.06	18.24	11.12	18.00	10.68		9.12	5.62	9.74	5.24	16.38	21.88
		3	450	424	464	283	457	267		232	142	248	133	416	556
				19.08	18.24	11.12	18.00	10.60	9.60	9.12	5.62	9.74	5.24	16.38	21.88
		3	600	484	464	283	457	267	241	232	142	248	133	416	556
				16.56	18.24	11.24	19.00	10.60		8.50	5.50	9.38	5.38	16.38	21.88
		4	250	421	464	286	483	267		216	140	238	137	416	556
				16.56	18.24	11.24	19.00	10.50	9.06	8.38	5.38	9.24	5.24	16.38	21.88
		4	600	421	464	286	483	267	230	213	137	235	133	416	556
				19.62	21.00	11.74	20.74	9.12		6.88	5.38	8.62	5.12	16.94	22.44
		5	250	498	533	299	578	232		175	137	219	130	430	570
				15.88	21.00	11.74	20.74	9.12	7.56	6.74	5.24	8.50	5.08	16.94	22.44
		5	600	403	533	298	578	232	192	172	133	216	129	430	570

* DENOTES CONNECTIONS AND LOCATING DIMENSIONS ONLY WHEN INSULATION AND JACKETING IS FURNISHED

INSULATION AND JACKETING - FURNISHED ☐ YES ■ NO

MAXIMUM BEARING COOLING WATER CHAMBER PRESSURE(GAGE) 75 PSI / 5.2 bar

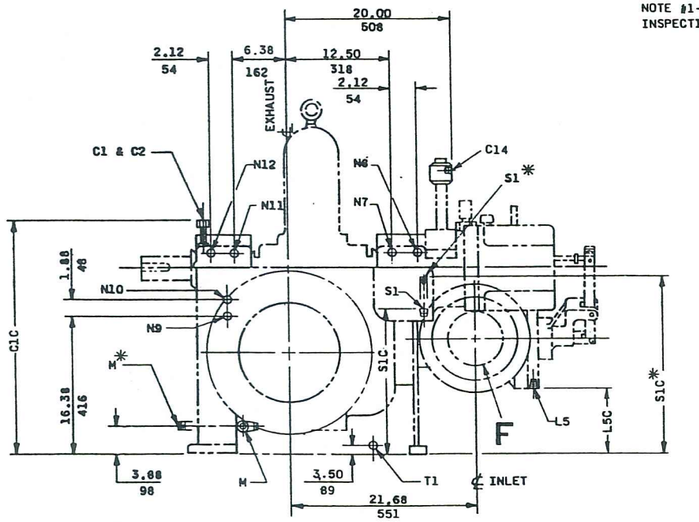
ALL DIMENSIONS ABOVE DIMENSION LINES ARE IN INCHES & BELOW DIMENSION LINES ARE IN MILLIMETRES.

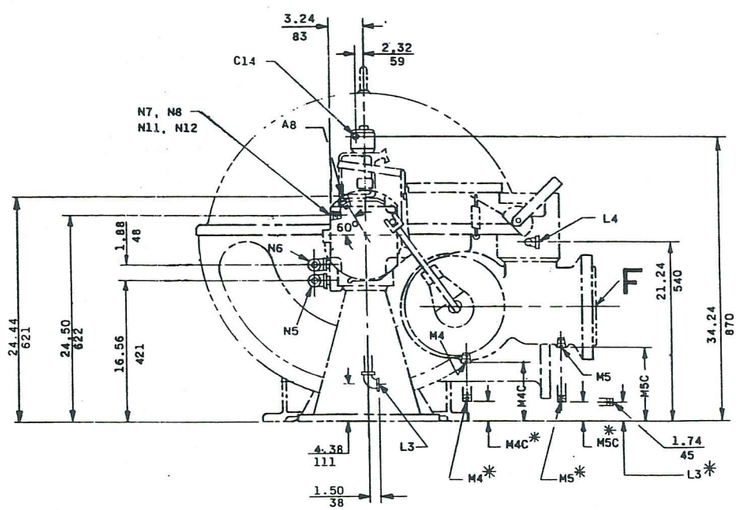
TURBINE OUTLINE DRAWING WC-400227

NOTE #1-IF VENT IS DESIRED USE ONE OF THE TWO 1/4 N.P.T. HOLES FOR OIL RING INSPECTION. HOLES LOCATED ON TOP OF BEARING HOUSINGS.

PURCHASER'S CONNECTIONS

	CONNECTION	NOMINAL SIZE	REMARKS
L3	LEAKOFF FROM SHAFT PACKING CASES	1 N.P.T.	CONNECT TO OPEN DRAIN
~~L3*~~	~~LEAKOFF FROM SHAFT PACKING CASES~~	~~1 PIPE CONN.~~	~~CONNECT TO OPEN DRAIN~~
L4	TRIP VALVE STEM LEAKOFF	3/4 N.P.T.	CONNECT TO OPEN DRAIN
L5	GOV. VALVE STEM LEAKOFF(CAST STL. INLET ONLY)	1/2 N.P.T.	CONNECT TO OPEN DRAIN FURNISHED ■ YES ☐ NO
M	TURBINE CASING DRAIN	3/4 N.P.T.	CONNECT THROUGH SUITABLE VALVE TO OPEN DRAIN
~~M*~~	~~TURBINE CASING DRAIN~~	~~3/4 PIPE CONN~~	~~CONNECT THROUGH SUITABLE VALVE TO OPEN DRAIN~~
M4	BELOW SEAT DRAIN (STEAM CHEST)	3/4 N.P.T.	CONNECT THROUGH SUITABLE VALVE TO OPEN DRAIN
~~M4*~~	~~BELOW SEAT DRAIN (STEAM CHEST)~~	~~3/4 PIPE CONN~~	~~CONNECT THROUGH SUITABLE VALVE TO OPEN DRAIN~~
M5	ABOVE SEAT DRAIN (STEAM CHEST)	3/4 N.P.T.	CONNECT THROUGH SUITABLE VALVE TO OPEN DRAIN
~~M5*~~	~~ABOVE SEAT DRAIN (STEAM CHEST)~~	~~3/4 PIPE CONN~~	~~CONNECT THROUGH SUITABLE VALVE TO OPEN DRAIN~~
N5	WATER COOLING TO STEAM END BEARING HSG.	1/2 N.P.T.	FURNISHED ☐ YES ■ NO
N6	WATER COOLING FROM STEAM END BEARING HSG.	1/2 N.P.T.	FURNISHED ☐ YES ■ NO
N7	WATER COOLING TO STEAM END BEARING CAP	1/2 N.P.T.	FURNISHED ☐ YES ■ NO
N8	WATER COOLING FROM STEAM END BRG. CAP.	1/2 N.P.T.	FURNISHED ☐ YES ■ NO
N9	WATER COOLING TO EXHAUST END BEARING HSG.	1/2 PIPE CONN	FURNISHED ☐ YES ■ NO
N10	WATER COOLING FROM EXHAUST END BEARING HSG	1/2 N.P.T.	FURNISHED ☐ YES ■ NO
N11	WATER COOLING TO EXHAUST END BEARING CAP	1/2 N.P.T.	FURNISHED ☐ YES ■ NO
N12	WATER COOLING FROM EXHAUST END BRG. CAP.	1/2 N.P.T.	FURNISHED ☐ YES ■ NO
S1	NOZZLE RING GAUGE CONNECTION	3/4 N.P.T.	CONNECT TO RING GAUGE
~~S1*~~	~~NOZZLE RING GAUGE CONNECTION~~	~~3/4 PIPE CONN~~	~~CONNECT TO RING GAUGE~~
T1	SEALING STEAM TO SHAFT PACKING CASE	1/2 PIPE CONN	FURNISHED ☐ YES ■ NO
~~T1*~~	~~SEALING STEAM TO SHAFT PACKING CASE~~	~~1/2 PIPE CONN~~	~~FURNISHED ☐ YES ☐ NO~~
A8	PNEUMATIC OIL MIST OR PURGE	1/4 N.P.T.	SEE NOTE # 1 FURNISHED ☐ YES ■ NO





MAGNETIC IMPULSE SPEED PICK-UP FURNISHED ☐ YES ■ NO	C1C
☐ C1-5/8 UNF-2A CONNECTION FOR TACHOMETER PICK-UP (OPEN TYPE)	26.38 / 670
☐ C2-1/2 N.P.T. (INTERNAL) CONNECTION FOR TACHOMETER PICK-UP (EXPLOSION-PROOF)	27.24 / 692
MATING CONNECTOR AND _____ FT. OF SHIELDED CABLE FURNISHED ☐ YES ☐ NO	

SOLENOID TRIP MECHANISM-FURNISHED ■ YES ☐ NO

C14-1/2 N.P.T. CONDUIT CONNECTION

SOLENOID DATA

1. SOLENOID TO TRIP TURBINE WHEN:
   ENERGIZED ■
   DE-ENERGIZED ☐
2. ENCLOSURE: EXPLOSION-PROOF NEMA 7 AND WATER-PROOF NEMA 4
3. ELECTRICAL RATING:
   50/60 PHASE HERTZ 120 VOLTS AC
4. COIL-CONTINUOUS DUTY CLASS "A" MOLDED.

CERTIFIED FOR CONSTRUCTION

DO NOT USE THIS PRINT FOR CONSTRUCTION UNLESS CERTIFICATION IS SIGNED AND DATED.

FOR APPROVAL ☐

AVOID DELAY - TO ESTABLISH / MAINTAIN SHIPPING PROMISE ONE APPROVED PRINT MUST BE RETURNED BY: _____

BY _____ DATE _____

FOR RECORD ■

ANY REQUESTED CHANGE OF THIS EQUIPMENT WILL RESULT IN:
1. CONTRACT PRICE ADJUSTMENT.
2. EXTENDED SHIPPING PROMISE AS THIS CONTRACT IS IN MANUFACTURING PROCESS

BY R.BOYER DATE 2-5-93

THIS DRAWING SUPERSEDES DWG. NO. _____ DATED _____

PURCHASER'S MARKINGS

TURBINE REPLACEMENT

PURCHASE..

PURCHASER'S ORDER NO. 121692

USER

S.O..NO. C302311 G.O. NO. NY930022

SERIAL NO. C302311

DYR TURBINE STANDARD PURCHASERS CONNECTIONS DRAWING

ELLIOTT

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X-664415 1/82

REVISION NO. 0