PART 1

TOWER ASSEMBLY

1.1 BOTTOM RING

Reference drawing no.	224F34709
Piece no.	01
Quantity	01
Segments	02
Height	5.125"
Outside diameter	158.375"
Inside diameter	127.312"
Material	ASMT A-36
Weight - est.	9100 lbs.

1.1.2 BUSHING

Reference drawing no.	224D34731
Piece no.	05
Quantity	20
Height	3.375"
Outside diameter	5.140"
Wall thickness	0.3125"
Material	Delrin
Type	AF

1.1.3 DISCHARGE RING

Reference drawing no.	224F34709
Piece no.	06
Quantity	01
Outside diameter - maximum	128.812"
Inside diameter - minimum	124.080"
Height	26.125"
Wall thickness - minimum	1.125"
Material	ASTM A-36
Weight - est.	3300 lbs.

1.1.4 SEAL RING

Reference drawing no.	224F34709
Piece no.	18
Quantity	20
Cross section	.210"
Inside diameter	4.475"
Model	2-349
Material	Buna-N
Make	Parker Seal.

PART 1

TOWER ASSEMBLY

1.2 WICKET GATES

Reference drawing no.	224F34710
Piece no.	01
Quantity	20
Height, stems included	75.844"
Height - gate only	46.470"
Length	24.094"
Thickness - maximum	4.818"
Material	ASTM A-36 & A-576 Gr. 10200
Weight - est.	600 lbs.

1.2.1 SLEEVE - UPPER

Reference drawing no.	224C34730
Piece no.	04
Quantity	20
Height	3.250"
Wall thickness	0.125"
Inside diameter	4.238"
Material	Stainless steel
Weight - est.	2 lbs.

1.2.2 SLEEVE - INTERMEDIATE

Reference drawing no.	224C34730
Piece no.	05
Quantity	20
Height	7.625"
Wall thickness	0.156"
Inside diameter	4.550"
Material	Stainless Steel
Weight - est.	5 lbs.

1.2.3 SLEEVE - LOWER

Reference drawing no.	224C34730
Piece	06
Quantity	20
Height	3.500"
Wall thickness	0.125"
Inside diameter	4.238"
Material	Stainless Steel
Weight - est.	2 lbs.

Dominion Engineering Works

PART 1

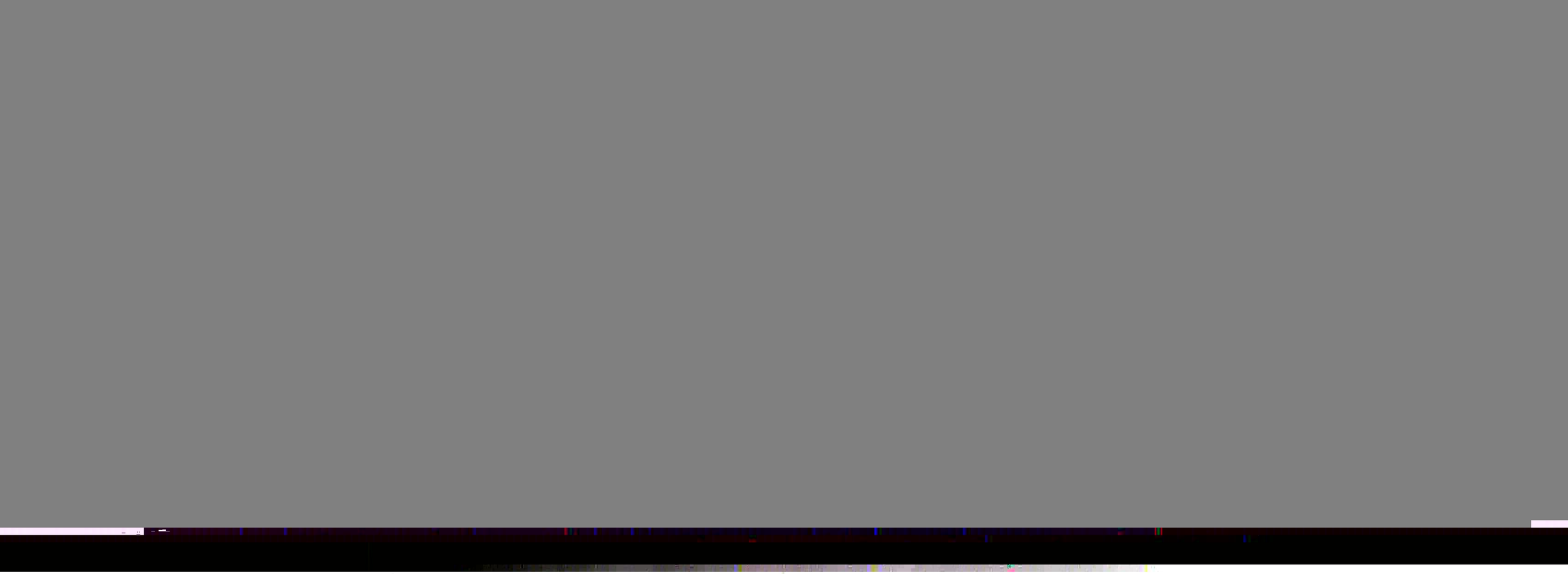
TOWER ASSEMBLY

1.3.4 BUSHING - LOWER

Reference drawing no. 224D34731
Piece no.

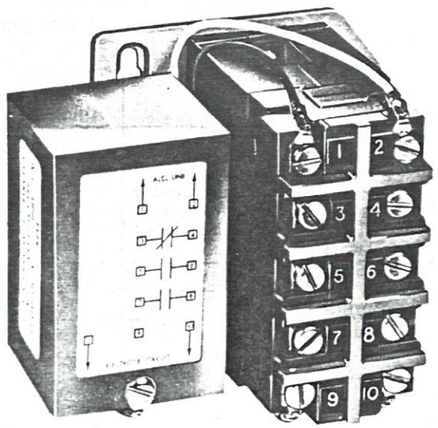


PART 2



BE Series - Sewage

REPAIR
PARTS LIST



OUTLINE DIAGRAM OF OPEN CONTROL



SPECIFICATIONS

Baseplate: High strength, diecast, aluminum alloy. Three dimpled keyholes for size 6 mounting screws.

Coils: Wound on nylon bobbins. Epoxy encapsulated.

Contact Design: 2PST and 3PST bridge type double break in all possible combinations of normally open and normally closed. Fully enclosed. Buttons are 1/4 inch diameter silver cadmium oxide.

Contact Ratings: (a) **Current:** 16 amperes at 115 volts A.C. and 8 amperes at 230 volts A.C., (b) **Horsepower:** 1 horsepower at 115 and 230 volts A.C., (c) **Pilot duty:** 775 volt-amperes at 115 and 230 volts A.C. and 250 volt-amperes at 460 volts A.C.

Electronics Module: Solid state components epoxy encapsulated in diallyl phthalate shell.

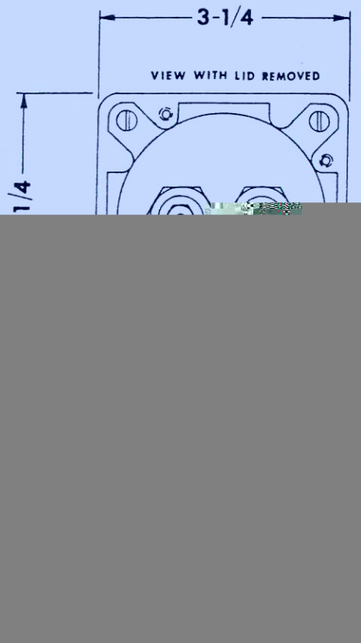
Identification: By the use of a component number on a data label affixed to the control. In addition, the electronics module is green on medium sensitivity models, and blue on high sensitivity models.

Modes of Operation: Direct and inverse. Easily altered by interchanging two wires on the control.

Molded Structural Parts: High mechanical and dielectric strength, dimensionally stable, arc resistant, ther-







	BILL OF MATERIALS
1	BODY: CAST IRON P/N 3P123 RED BRASS P/N 3P124 316 SS P/N 3P125
2	ELECTRODE FITTING: SERIES 3B3A ON CAST IRON & RED BRASS, SERIES 3B1B ON 316 SS
3	GASKET P/N 3P108
4	HOUSING P/N 3P102
5	SCREW P/N 3P113
6	GASKET P/N 3P111

	BILL OF MATERIAL
1	BODY: CAST IRON P/N 3P126 RED BRASS P/N 3P127 316 SS P/N 3P128
2	ELECTRODE FITTING: SERIES 3B3A ON CAST

LINE NUMBER ON PARTS BILL WHICH IS INDICATED IN LOWER RH CORNER

INTAKE SIDE

SECTION D-D

SECTION F-F

1"-11½ NPT DRILL Ø 1.141 1 HOLE IN HEAD COVER AT EACH AIR VALVE POCKET AT SHOP ASSEMBLY (2 PLACES)

CONNECTION FOR GENERATOR COOLING WATER RETURN.

PUMP DC CONTROLLED THRU INVERTOR

PUMP AC CONTROLLED

¼" T (0.375 O.D.) PRIMING SUPPLY.

36 37 OPEN 10%

CLEAN WATER SUPPLY.

PACKING BOX PIPING 224 F 34738

17.750 R. REF.

35.062

USE AS NECESSARY

PART 3

RUNNER - SHAFT

3.1 RUNNER

Reference drawing no.	224F34714
Piece	03
Quantity	01
Height	45.437"
Outside diameter	125.750"
Blade	05
Material	Cast stainless steel
Weight - est.	12,500 lbs.

3.1.1 CONE

Reference drawing no.	224C34716
Piece	01
Height	16.562"
Quantity	01
Outside diameter	29.750"
Material	Welded steel
Weight - est.	390 lbs.

3.2 SHAFT

Reference drawing no.	224D34719
Piece	02
Quantity	01
Length	131.875"
Flanges outside diameter	23.500"
Body diameter	13.000"
Bearing journal diameter	16.986" - 16.990"
Material	Forged - steel
Weight - est.	6000 lbs.

3.2.1 INNER OIL SUMP

Reference drawing no.	224D34713
Piece	01
Quantity	01
Height	7.812"
Outside diameter	17.366"
Inside diameter	13.500"
Material	Welded steel
Weight - est.	60 lbs.

PART 3

RUNNER - SHAFT

3.2.2 SEAL RING

Reference drawing no.	224D34723
Piece no.	05
Quantity	01
Inside diameter	16 3/4"
Cross section	3/16"
Mean developed length	53 7/32"
Material	Neoprene

3.2.3 COUPLING BOLTS - RUNNER END

Reference drawing no.	224C34729
Piece no.	02
Quantity	12
Length	8.750"
Body diameter	2.248"-2.249"
Thread size	2"-8UN
Material	ASTM A-576 Gr. 10450
Weight - est.	10 lbs.

3.2.4 NUT GUARD

Reference drawing no.	224D34715
Piece no.	02
Quantity	01
Sections	02
Height	3.625"
Outside diameter	24.250"
Material	Welded steel
Weight - est.	80 lbs.

3.2.5 COUPLING STUD - GENERATOR END

Reference drawing no.	224D34715
Piece no.	09
Quantity	12
Length	10"
Body diameter	2.2490"-2.2495"
Thread size	2"-8UN
Material	ASTM A-576 Gr. 10450
Weight - est.	10 lbs.

PART 3

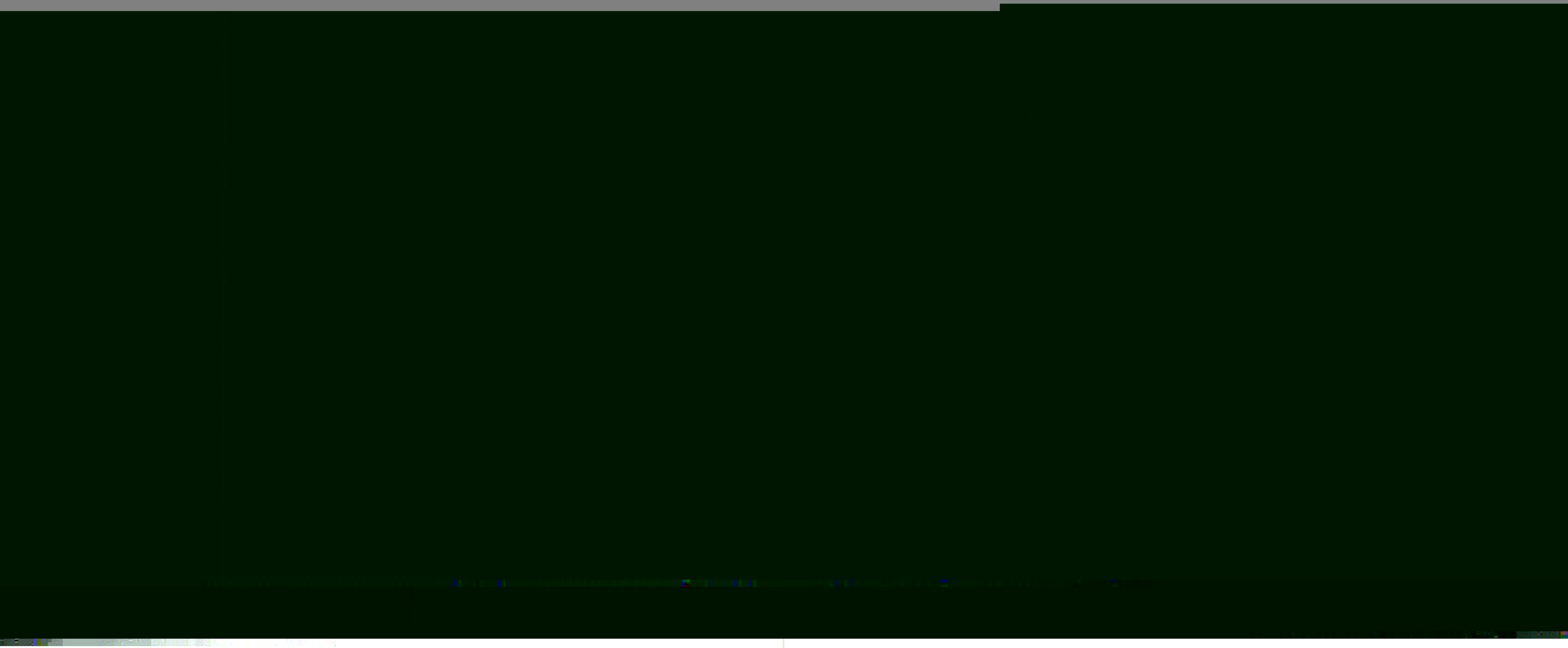
RUNNER - SHAFT

3.2.6 NUTS

Reference drawing no.	224C34729
Piece no.	05
Quantity	36
Size	2"-8UN
Type	Hexagon - Heavy Duty
Material	Low carbon steel



Dominion Engineering Works

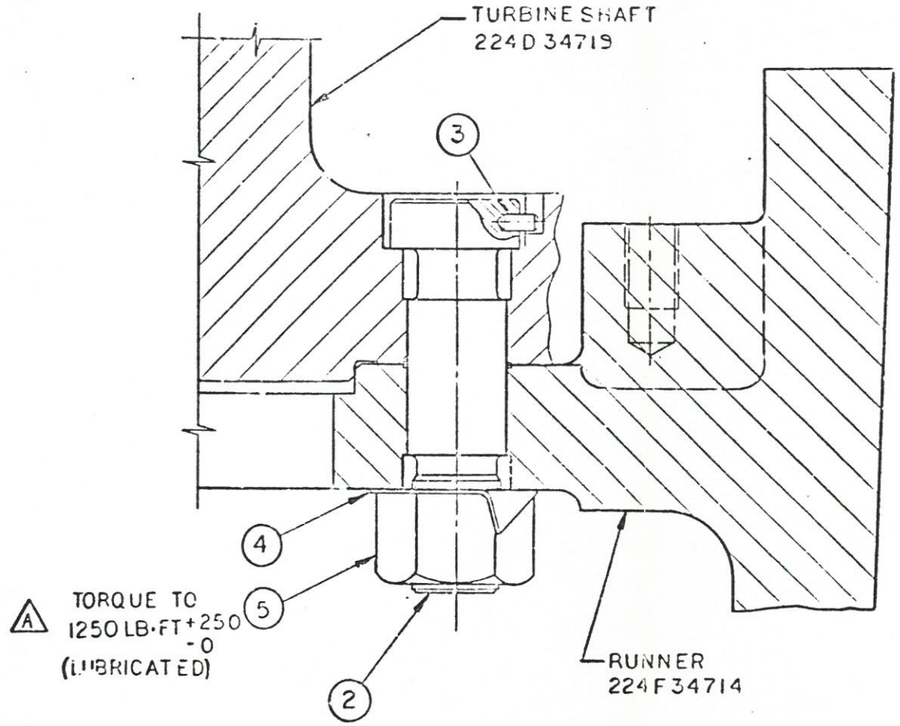


PART 3

RUNNER - SHAFT

3.4.4 VALVE

Reference drawing no.	224F34731
Piece no.	23
Quantity	03
Model	M-15127
Type	Globe
Size	1/2" C
Material	Bronze
Make	Streamline

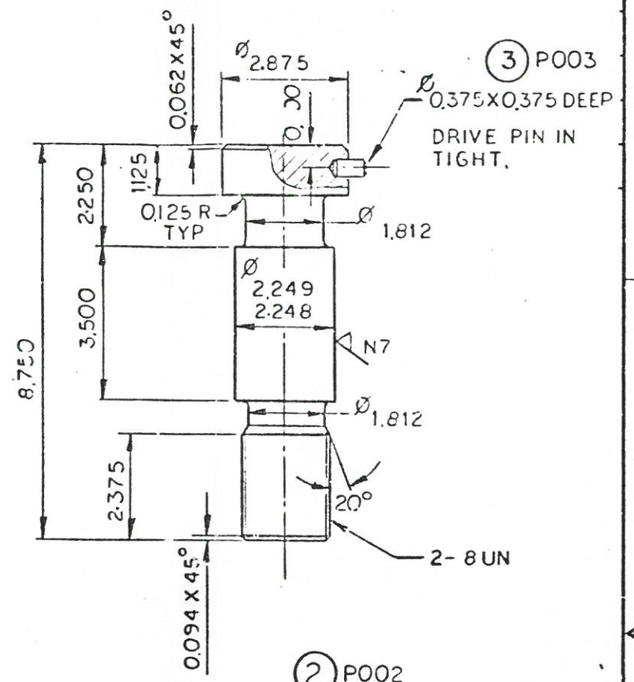


COUPLING BOLT ARRANGEMENT

TOLÉRANCES D'USINAGE POUR DIMENSIONS & CARACTÉRISTIQUES NON LIMITÉES TOLERANCES FOR NON LIMITED DIMENSIONS & FEATURES FOR MACHINING										
DIM PLUS DE / DIM OVER À / TO	0 2	2 6	6 20	20 80	80 160	160 320	320 470	470 630	630 790
LINÉAIRE LINEAR	±0.015	±0.015	±0.03	±0.05	±0.08	±0.10	±0.15	±0.20	±0.25
CONCENTR ◎	0.003	0.005	0.008	0.012	0.026	0.040	0.055	0.070	0.080
GÉOMÉTR ⏥, ⌭, //, ⊥	0.01	0.02	0.03	0.04	0.05	0.06	0.09	0.12	0.12

TOLÉRANCES NON LIMITÉES POUR POSITION ⌖ DES CENTRES DES TROUS TOLERANCES FOR NON LIMITED POSITION ⌖ OF HOLE CENTERS						
Ø PLUS DE / OVER	0	0.75	1.25	2.0	5.0	8.0
À / TO	0.75	1.25	2.0	5.0	8.0	—
TOLERANCE	0.06	0.08	0.12	0.18	0.25	0.40

LINE NUMBER ON PARTS BILL WHICH IS INDICATED IN LOWER R.H. CORNER.



③ P003

② P002

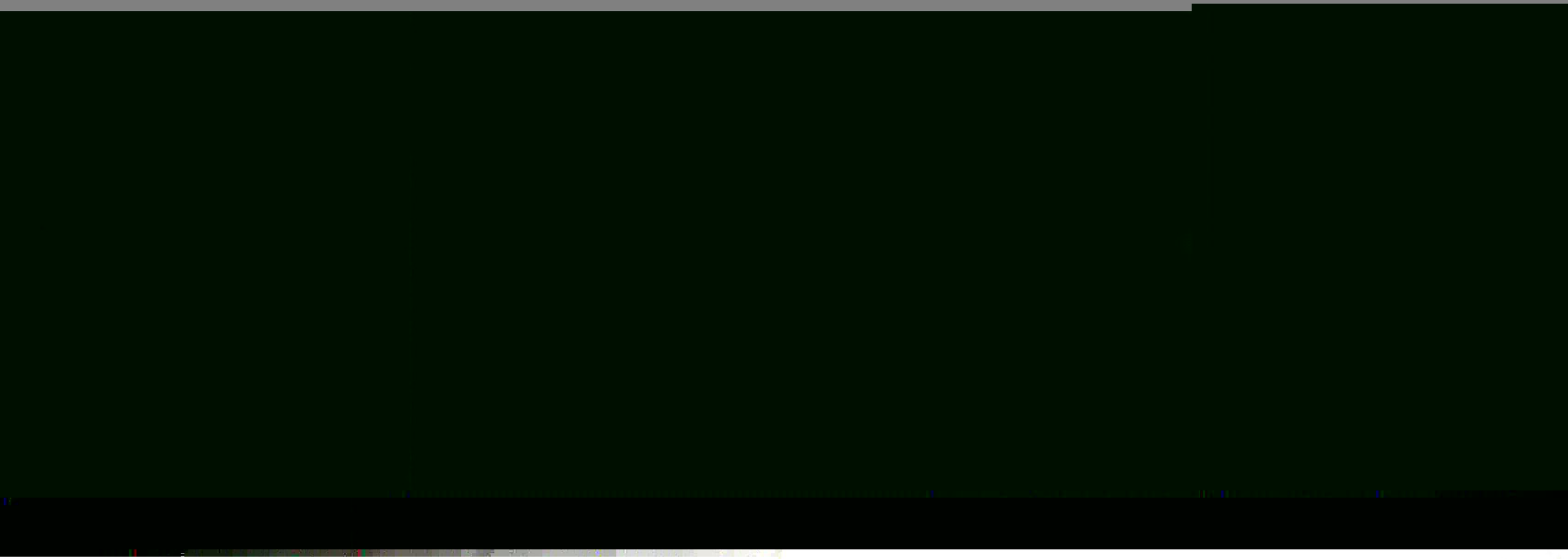
COUPLING BOLT

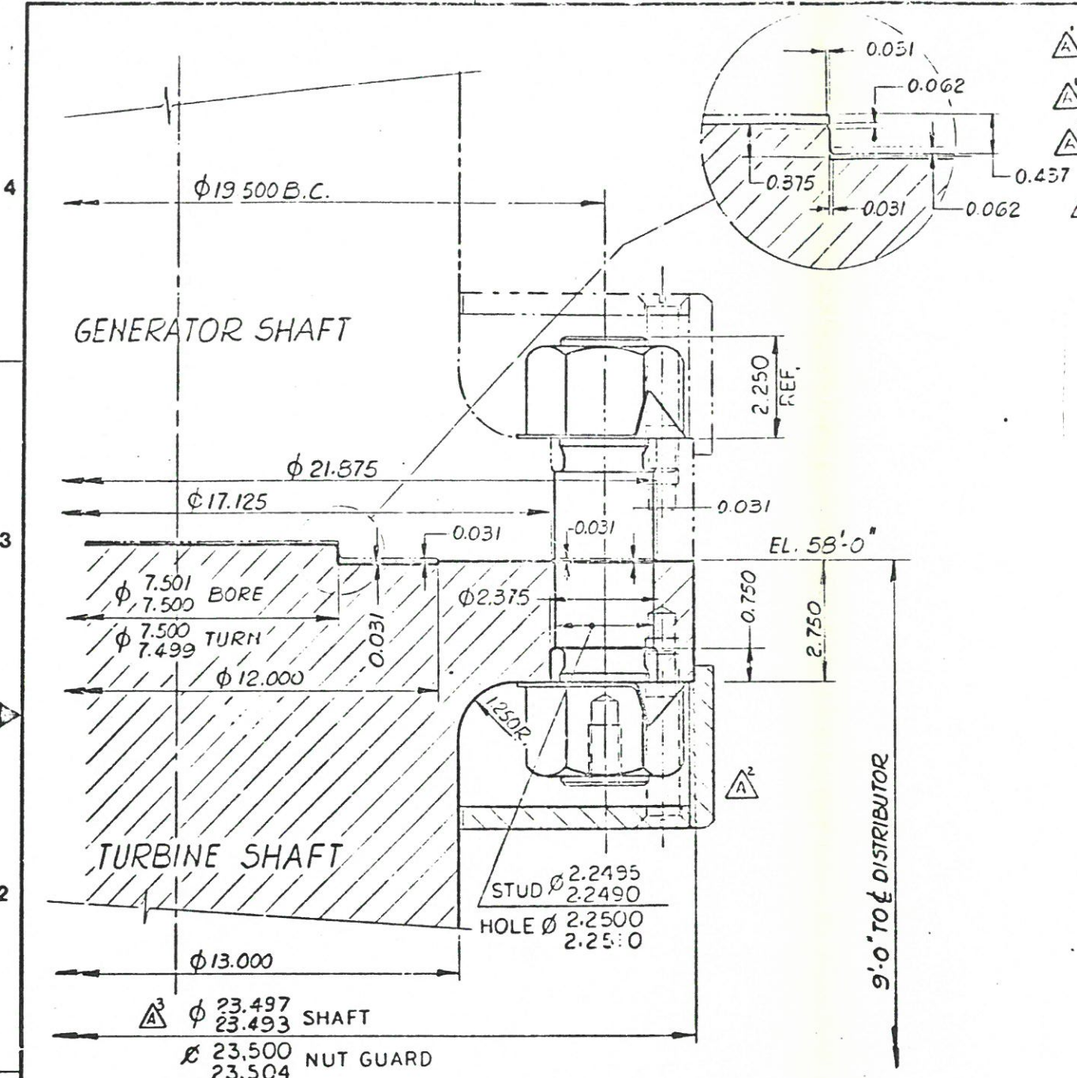
MAT'L: A.S.T.M. A - 576
G 10450

EST FIN. WT: 10 LB

N8. ALL OVER
EXCEPT AS NOTED

244 - 900420	191	UNIT #1		CITY OF TALLAHASSEE JACKSON BLUFF HYDROELECTRIC PROJECT PROPELLER TURBINE	
244 - 900410		UNIT #2			
CONTRAT CONTRACT	NOMEN P.BILL	DV P/G OR	ENS SUP N.H. ASM	PROJET PROJECT	DATE
RÉFÉRENCE POUR INGÉNIERIE SEULEMENT ENGINEERING REF. ONLY					





A1 Ø2.250 2.251 & C'BORE 12 HOLES IN TURBINE SHAFT.

A1 Ø 2.156 & C'BORE 12 HOLES IN GENERATOR SHAFT.

A1 TO BE REAMED AT SITE WHEN ASSEMBLED TO Ø 2.250 2.251

A1 COUPLING STUDS, NUTS LOCKING PLATES AND NUT GUARD FOR TURBINE SHAFT SUPPLIED BY D.E.W.

TEMPLATE FOR SUB-DRILLING COUPLING BOLT HOLES IN GENERATOR SHAFT TO BE SUPPLIED BY D.E.W.

PIN GAUGE FOR SPIGOT FIT FOR GENERATOR SHAFT TO BE SUPPLIED BY D.E.W. (STANDARD OF MEASUREMENT ONLY)

THE OUTER CYLINDRICAL SURFACES OF FLANGES TO BE MARKED WITH 'H' TO INDICATE THE HIGH SPOT ON THE COUPLING FACE.

TOLÉRANCES D'USINAGE POUR DIMENSIONS & CARACTÉRISTIQUES NON LIMITÉES / TOLERANCES FOR NON-LIMITED DIMENSIONS & FEATURES FOR MACHINING										
DIM. PLUS DE / DIM. OVER À / TO	0 2	2 6	6 20	20 80	80 160	160 320	320 470	470 630	630 790	
LINÉAIRE / LINEAR	±0.015	±0.015	±0.03	±0.05	±0.08	±0.10	±0.15	±0.20	±0.25	
CONCENTR ◎	0.003	0.005	0.008	0.012	0.026	0.040	0.055	0.070	0.080	
GEOMETR ▱, —, //, ⊥	0.01	0.02	0.03	0.04	0.05	0.06	0.09	0.12	0.12	

TOLÉRANCES NON LIMITÉES POUR POSITION ⌖ DES CENTRES DES TROUS / TOLERANCES FOR NON LIMITED POSITION ⌖ OF HOLE CENTERS.						
Ø PLUS DE / OVER	0	0.75	1.25	2.0	5.0	8.0
À / TO	0.75	1.25	2.0	5.0	8.0	—
TOLERANCE	0.06	0.08	0.12	0.18	0.25	0.40

REVISIONS			
A	1	2	3
NOTES /ADDED	b-4	c-2	1-2
NUT GUARD MODIFIED			WAS ϕ23.500 23.495

DIM. EN POUCES / DIM. IN INCHES

ÉCHELLE/SCALE 6 ¢ 12 = 12

DES/DR. VÉR/CHK. RE

PROJ./PASS.

APPR.

DATE 83/10/27

PROJECTION

REF

COUPLING ENDS OF GENERATOR AND TURBINE SHAFTS

244-900 420	20	UNIT #1		CITY OF TALLAHASSEE JACKSON BLUFF HYDROELECTRIC PROJECT PROPELLER TURBINE
244 900410		UNIT #2		
CONTRAT CONTRACT	NOMEN P.BILL	OU/OR P/G	ENS. SUP. N.H. ASM.	PROJET PROJECT / DATE

RÉFÉRENCE POUR INGÉNIERIE SEULEMENT / ENGINEERING REF. ONLY.

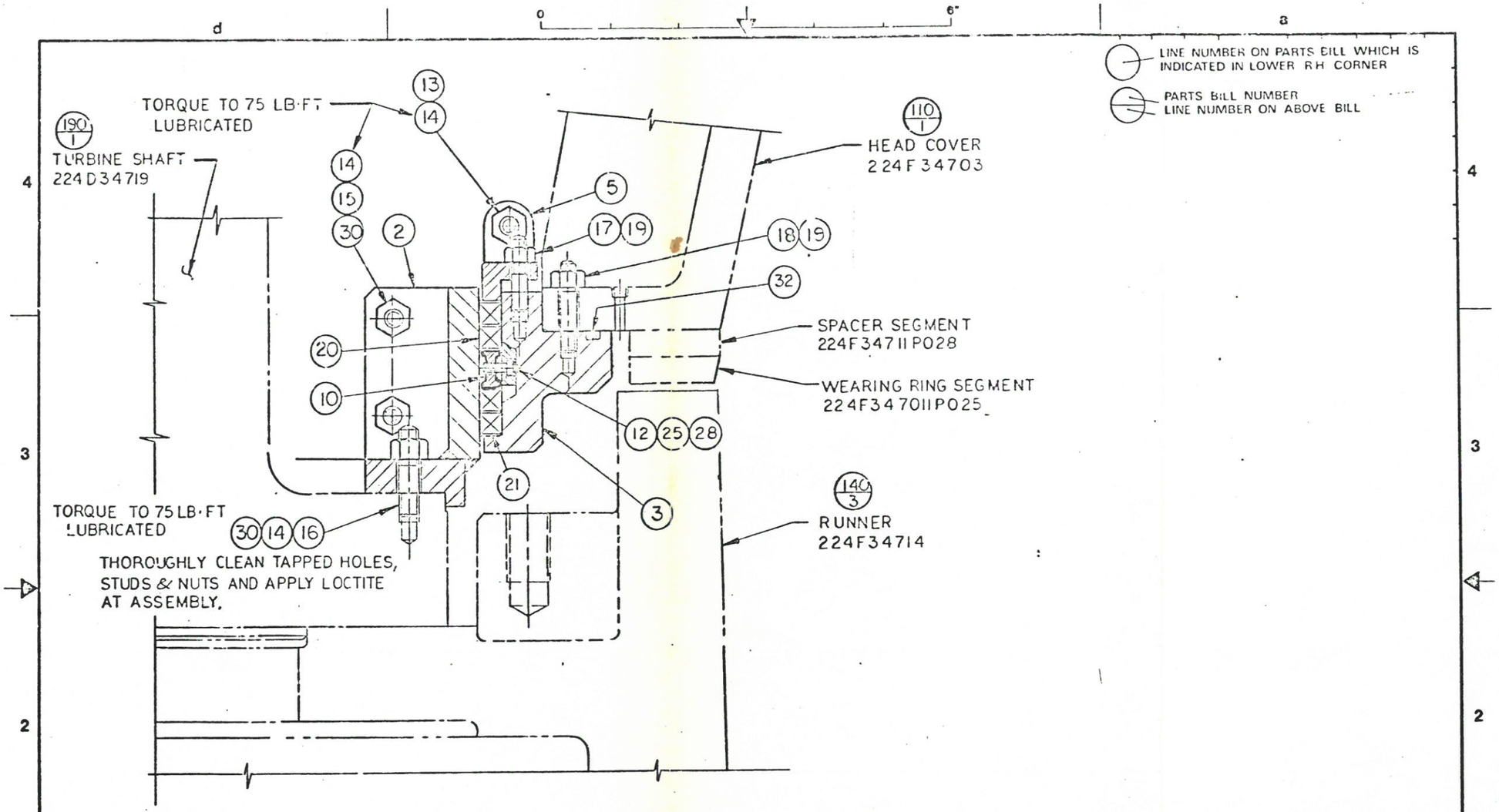
LES ATELIERS D'INGÉNIERIE DOMINION LIMITÉE
MONTRÉAL, CANADA
DOMINION ENGINEERING WORKS LIMITED
MONTREAL, CANADA

HYDRAULIC TURBINE SECTION

224C34717 | FEUILLE SHEET 1 | DE OF 1 | REV A

CE DESSIN EST LA PROPRIÉTÉ DES ATELIERS D'INGÉNIERIE DOMINION. IL NE PEUT ÊTRE REPRODUIT, NI COMMUNIQUÉ À DES TIERS SANS AUTORISATION ET DOIT ÊTRE RETOURNÉ APRÈS USAGE.
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C - DEW 11402



TOLÉRANCES D'USINAGE POUR DIMENSIONS & CARACTÉRISTIQUES NON LIMITÉES TOLERANCES FOR NON-LIMITED DIMENSIONS & FEATURES FOR MACHINING										
DIM. PLUS DE / DIM. OVER	0	2	6	20	80	160	320	470	630
À / TO	2	6	20	80	160	320	470	630	790
LINÉAIRE / LINEAR	±0.015	±0.015	±0.03	±0.05	±0.08	±0.10	±0.15	±0.20	±0.25
CONCENTR. ◎	0.003	0.005	0.008	0.012	0.026	0.040	0.055	0.070	0.080
GEOMETR. □, −, //, ⊥	0.01	0.02	0.03	0.04	0.05	0.06	0.09	0.12	0.12

TOLÉRANCES NON LIMITÉES POUR POSITION ⊕ DES CENTRES DES TROUS. TOLERANCES FOR NON-LIMITED POSITION ⊕ OF HOLE CENTERS.						
Ø PLUS DE / OVER	0	0.75	1.25	2.0	5.0	8.0
À / TO	0.75	1.25	2.0	5.0	8.0	—
TOLERANCE	0.06	0.08	0.12	0.18	0.25	0.40

CONTRAT CONTRACT	NOMEN. P.BILL	DU / OR G	ENS. SUP. N.H. ASM	PROJET PROJECT	DATE
244-900420	205	UNIT #1		CITY OF TALLAHASSEE JACKSON BLUFF HYDROELECTRIC PROJECT- PROPELLER TURBINE	

RÉFÉRENCE POUR INGÉNIERIE SEULEMENT / ENGINEERING REF. ONLY

REVISIONS

DIM. EN POUCES / DIM. IN INCHES	
ÉCHELLE/SCALE	6 : 12
DES/DR. M. S.	VER./CHK. J.C. Piché
PROJ./PASS.	
APPR.	PROJECTION
DATE 85.01.22	

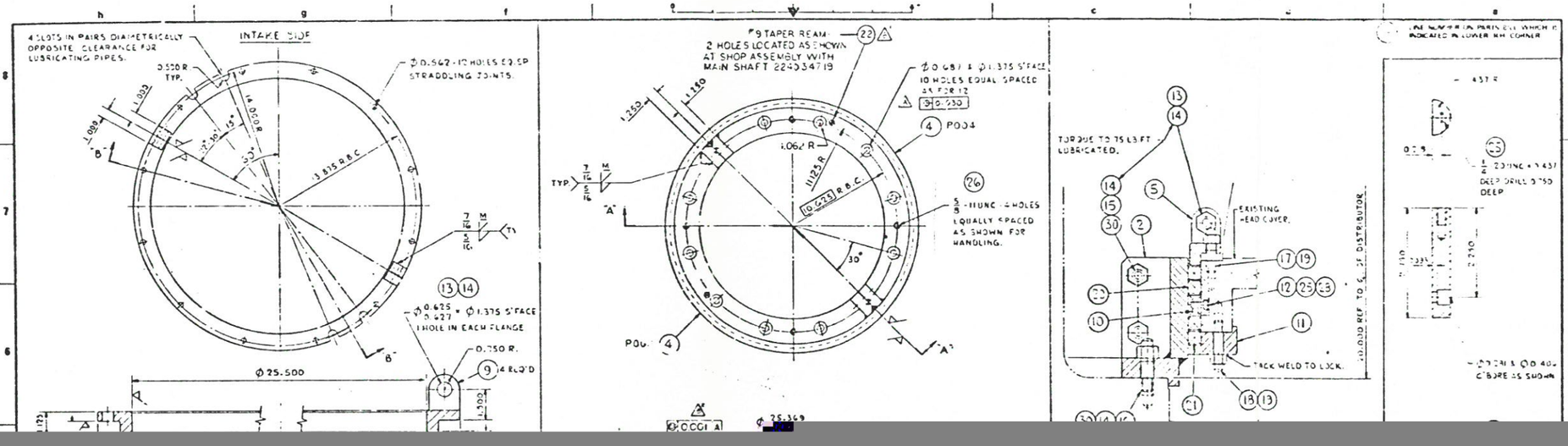
PACKING BOX ASSEMBLY

REF.

ATELIERS D'INGÉNIERIE DOMINION
DOMINION ENGINEERING WORKS
MONTRÉAL, CANADA

HYDRAULIC TURBINE SECTION

2246 3470 C


INTAKE SIDE
4 SLOTS IN PAIRS DIAMETRICALLY OPPOSITE CLEARANCE FOR LUBRICATING PIPES.
0.550 R TYP.
Ø0.562 - 10 HOLES EQ'SP STRADDLING JOINTS.
3.875 R.B.C.
Ø25.500
0.750 R.
9 TAPER REAM - 2 HOLES LOCATED AS SHOWN AT SHOP ASSEMBLY WITH MAIN SHAFT 224034719
Ø0.687 & Ø1.375 S'FACE 10 HOLES EQUAL SPACED AS FOR 12
4.062 R
11.125 R
10.625 R.B.C.
5/8 - 11UNC - 3B HOLES EQUALLY SPACED AS SHOWN FOR HANDLING.
TORQUE TO 75 LB FT - LUBRICATED.
EXISTING HEAD COVER.
TACK WELD TO LOCK.
1/4 - 20UNC x 0.437 DEEP DRILL 0.750 DEEP
Ø0.281 & Ø0.406 C'BORE AS SHOWN





PART 4

GUIDE BEARING ARRANGEMENT

4.1 GUIDE BEARING

Reference drawing no. 224F34721

	01
	01
	02
	15.750"
ameter - max.	36.308"
ameter	17.000"-17.002"
	Welded steel
pe	ASTM, B-23, AL-7
	720 lbs.

COVER

drawing no.	224F34721
	23
	02
	4.250"
	3.500"
	0.500"
	Clear transparent acrylic plastic
	Johnston Industrial

Piece no.
Quantity
Sections
Height
Outside di
Inside di
Material
Babbitt ty
Weight

4.1.1 INSPECTION

Reference
Piece no.
Quantity
Length
Width
Thickness
Material

Supplier

PART 4

GUIDE BEARING ARRANGEMENT

4.1.4 VALVE

Reference drawing no.	224F34721
Piece no.	34
Quantity	01
Model	#7
Type	Globe
Size	1/2"
Material	Bronze
Rated at	150 lbs.
Make	Crane
Supplier	Crane Supply Co.

4.2 COVER PLATE

Reference drawing no.	224D34724
Piece no.	02
Quantity	01
Sections	02
Outside diameter	20.250"
Inside diameter	13.125"
Thickness	1.250"
Material	ASTM, A-283, Gr. D
Weight	56 lbs.

4.2.1 PACKING RING

Reference drawing no.	224D34724
Piece no.	06
Quantity	01
Sections	02
Cut on inside radius of	6.500R
Width	1.125"
Thickness	0.375"
Material	White felt SAE F5

PART 4

GUIDE BEARING ARRANGEMENT

4.3 RESISTANCE TEMPERATURE DETECTOR

Reference drawing no.	224D34724
Piece no.	11
Quantity	01
Model	S5BC127.5Z36
Diameter	0.250"
Length	12.000"
Rated	10 ohms at 25°C
Make	Minco
Supplier	Quontime Products Ltd

4.3.1 CONNECTION END

Reference drawing no.	224D34724
Piece no.	12
Quantity	01
Model	F102-3T
Size	1/2" NPT x 1/2"

PART 4

GUIDE BEARING ARRANGEMENT

4.3.3 TEMPERATURE INDICATOR

Reference drawing no.	224D34724
Piece no.	14
Quantity	01
Model no.	L84100
Dial range	10°C to 175°C
Temperature setting	75°C to 80°C
Switches	Two - SPDT
Alarm	on rising temperature
Power supply	125 VDC
Length of capilary tubing	30 ft. - 1/8" OD
Bulb model	82-3G1
Material	Copper
Outside diameter	7/16"
Length	4.000"

4.3.3 OIL LEVEL INDICATOR

Reference drawing no.	226D34642
Piece no.	02
Quantity	01
Model	TF 201
Part No.	T20
Switches	Two SPDT
Type	1B20-DB
Alarm setting	High and low level
Switch rating	115 VDC 1[illegible]

PART 4

GUIDE BEARING ARRANGEMENT

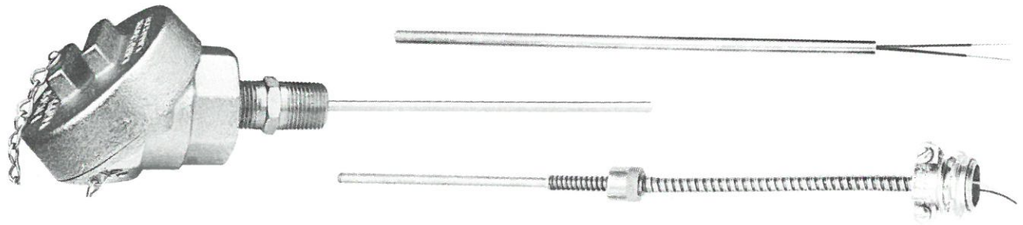
4.3.5 GASKET

Reference drawing no.	226D34642
Piece no.	15
Quantity	01
Outside dimension	6"
Inside dimension	4.250"
Thickness	0.062"
Material	Hydroil

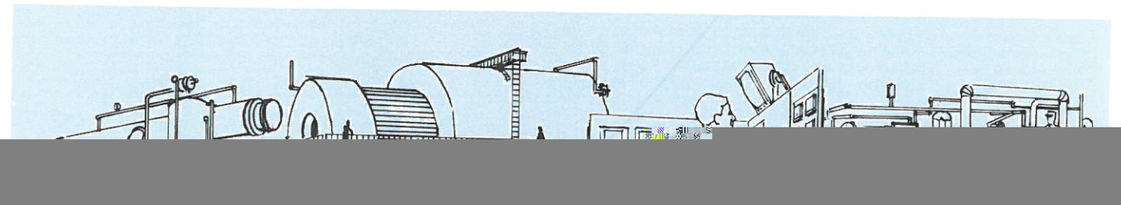
MINCO PRODUCTS, INC.
7300 Commerce Lane / Minneapolis, Minnesota 55432 / **Telephone: (612) 571-3121**

BULLETIN RTD-2

RESISTANCE TEMPERATURE DETECTORS (RTDs)



TIP-SENSITIVE — INDUSTRIAL PROBE TYPE



ORDERING INFORMATION

1. Select the tip-sensitive probe model number from the RTD specifications.

2. Select the required installation accessories.

3. Determine the correct complete probe part number as described below.

The example part number explained below (S51C124Z36) represents a 10 ohm @ 25°C copper element probe with a .215" diameter case, 12.4" long case, with 3 leadwires 36" long each.

S51 C 124 Z 36

- 36 — Leadwire length "B" in inches.
- Z — Number of leadwires: Y = 2 leadwires, Z = 3 leadwires
- 124 — Case length "A" in 0.1" increments. (See Table 1)
- C — Element type: C = Copper, N = Nickel, F = Nickel-Iron, P = Platinum
- S51 — RTD probe model number.

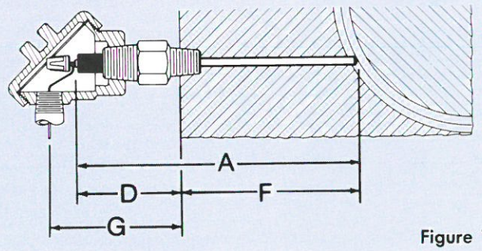


Figure 1

TABLE 1

Overall case length "A" to be specified.equals the sum of the lengths "D" and "F" in Figure 1 (A = D + F) or, when an extension is used, "D", "E" and "F" in Figure 2 (A = D + E + F), where:

D = Fitting or holder length (see Table 2).
E = Extension length.
F = Insertion depth.
G = Conduit-to-wall length (Fig. 1) or conduit-to-extension length (Fig. 2). Given for reference only. See Table 2.

TABLE 2

WEATHERPROOF HEAD USED WITH FITTING NUMBER		(See Figure 1 and Figure 2.) D	G
SPRING LOADED HOLDERS	F110 F113 F114	3¾" NOM.	4½" NOM.
TRANSITION FITTINGS	F122 F132 F142	2½" NOM.	3½" NOM.

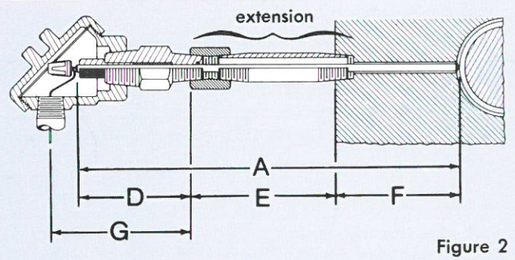
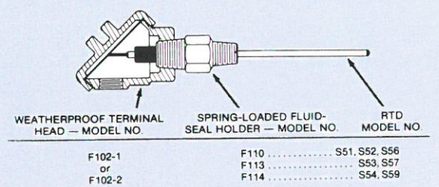
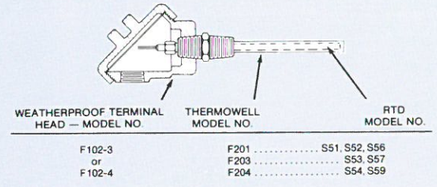
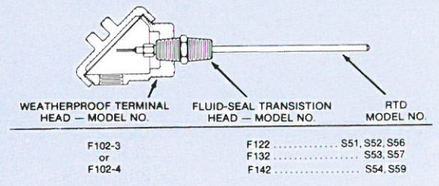


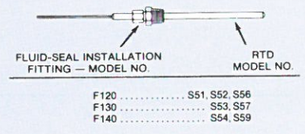
Figure 2

TYPICAL RTD ASSEMBLIES









MINCO PRODUCTS, INC.
7300 Commerce Lane / Minneapolis, Minnesota 55432 / TWX: 910-576-2848 / ***Telephone: (612) 571-3121***

Form 78915
2-15-81

Trerice

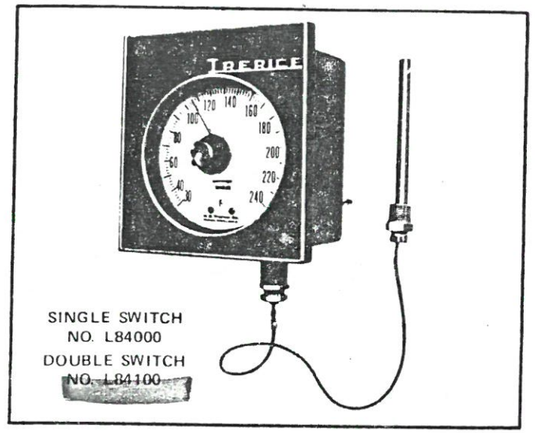
ELECTRIC CONTACT CONTROLLER SERIES L84000 - INDICATING TYPE STANDARD RANGES & TUBING

DESCRIPTION

GENERAL DATA: The No. L84000 TRERICE Electric Contact Controller is a newly designed modern instrument, produced to control temperature on applications requiring the opening and closing of electric solenoid valves, motor starters, electric heaters, etc. It is a rugged and versatile instrument, capable of effecting good control over a wide range of temperatures from minus 100°F. to plus 700°F. or celsius equivalent. As the temperature increases or decreases at the sensitive bulb, pressure changes are transmitted to the control mechanism which causes one or more electrical snap action switches to be actuated.

STANDARD SPECIFICATIONS: The No. L84000 TRERICE Electric Contact Controller is furnished in a plastic case and cover 7½" wide by 8 11/16" high by 4 5/16" deep. This controller can be flush mounted on panels up to ⅜" thick. The dark blue of the case enhances the appearance of any panel or piece of equipment on which it is mounted. The controller is furnished standard with a 6" dia. dial face with a pointer travel over a full 270° arc, permitting maximum visibility on a 15" scale length. Five feet of bronze braided armored capillary tubing and a copper bulb with ½" N.P.T. union connection, and a snap action single pole double throw switch with a setting indicator is standard. Two single pole double throw switches can be supplied. Specify No. L84100 on double switch units. Switches are factory set with a 1% differential, but can be adjusted up to 50% of the scale range apart. Three or four switch units available on special applications. Specify No. L84200 or No. L84300 and control temperatures.

ELECTRICAL CAPACITY: The electric contacts for single or double switch controllers are rated at 10 amps at 125/250 volts A.C., ¼ amp at 125 volts D.C. For three and four switch models the contacts are rated at 5 amps resistive and 3 amps inductive at 28 volts D.C., and 5 amps at 250 volts A.C. Electric connections can be made through a ½" N.P.T. hole in the bottom of the base plate. Other switch ratings available, consult factory.



BULBS AND FITTINGS: Although the bronze braided armored capillary tubing with a copper bulb and brass union connection is standard, other capillary materials and bulbs are available as follows; 1/8" O.D. type 347 or type 316 stainless steel capillary with bulbs in the same material, with or without union connection hubs and sockets, and PVC or teflon covered capillary systems. See pricing sheet for additional price on these alternative capillary systems, as well as additional standard capillary lengths. For more complete description of bulbs available see following bulb page. Replacement tube systems can be ordered. Specify: range, length of capillary & type, and bulb number. Maximum capillary length is 50 feet.

SPECIAL AND EXTRA TUBING

DESCRIPTION	CAT. NO.	DESCRIPTION	CAT. NO.
Bronze Double Braided Armored Tubing.	17-3	Plastic Covered Tubing Max. Temp. 180°F. (82°C.)	17-8
1/8" O.D. Stainless Steel Type 347 Seamless Tubing	17-5	Teflon Covered Tubing Max. Temp. 400°F. (205°C.)	17-9
1/8" O.D. Stainless Steel Type 316 Seamless Tubing	17-6		

SETTING ADJUSTMENT: A contact setting indicator adjusting knob is located on the front cover of the instrument for the purpose of making it possible to adjust the setting point of the controller. When two single pole double throw snap action switches are furnished, the temperature differential between the two switches may be set in the field by adjusting a set screw within the case of the instrument. This setting adjustment in no way affects the accuracy of the temperature reading on the dial face.

OPTIONAL SAFETY FEATURE: An additional 10 amp switch is supplied to shut off power to the controller when the temperature indicating pointer drops below the lowest point on the scale, due to tube system failure. Specify: Model L84000 or L84100 with safety switch.

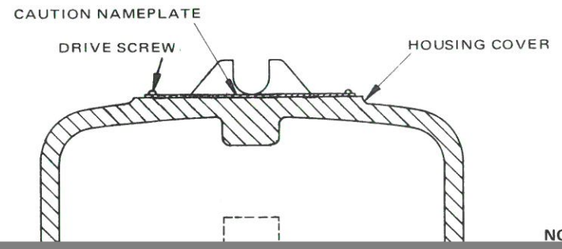
HOW TO ORDER: State: quantity, catalog number, name, range, number of switches, amp rating & voltage, thermal system & bulb specifications.

EXAMPLE: One No. L84000 TRERICE Electric Contact Controller Indicating Type. Range 30 to 240°F. One 10 amp 125VAC switch, 10 feet of No. 17-3 bronze braided over copper capillary tubing with union connected copper bulb & ½" N.P.T. brass fittings No. 80-3J12.

STANDARD RANGES (Ranges in shaded area are stock ranges)

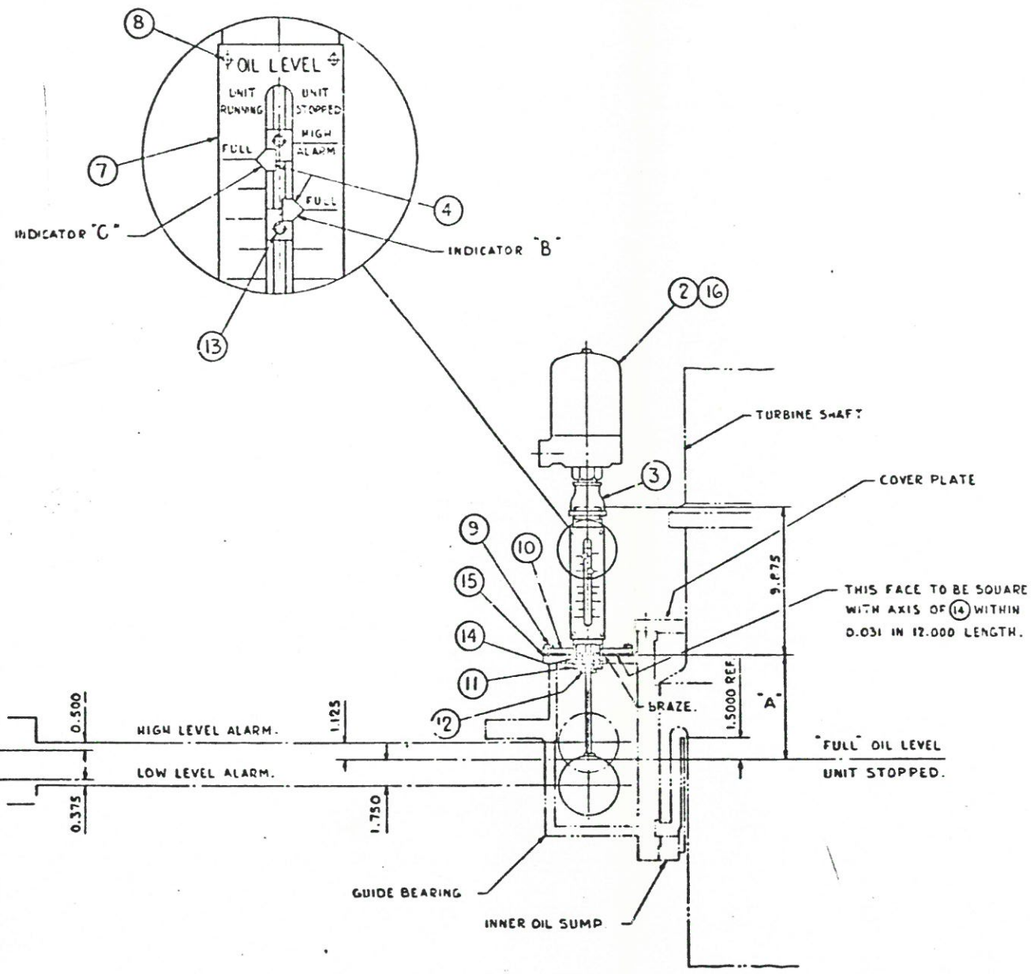
FAHRENHEIT	CELSIUS
−100 to 100°F. *	−70 to 40°C. *
−30 to 170°F.	−35 to 75°C.
30 to 240°F.	0 to 115°C.
0 to 200°F.	
50 to 350°F.	10 to 175°C.
200 to 400°F.	90 to 200°C.
50 to 700°F. *	10 to 370°C. *





NOTE:

(14) LINE NUMBER ON PARTS BILL WHICH IS INDICATED IN LOWER R.H. CORNER



SUGGESTED PROCEDURE FOR FILLING OIL SUMP AND SETTING OIL LEVEL INDICATOR.

BEFORE STARTING UNIT:

FILL OIL SUMP TO DIM "A".
ADJUST INDICATOR "B" TO SCALE "FULL" (UNIT STOPPED)
ADJUST "MAGNETROL" TO INDICATE LEVELS (ZONE e-2)

WITH UNIT RUNNING:

ADJUST INDICATOR "C" TO READ "FULL" (UNIT RUNNING)

(1) G001- ASSEMBLY.

7.812	244-900430	242	SPARES	CITY OF TALLAHASSEE JACKSON BLUFF HYDROELECTRIC PROJECT PROPELLER TURBINE
	244-900420	242	UNIT #1	
	244-900410	242	UNIT #2	
6.875	246-900220	242	SPARES.	CITY OF TALLAHASSEE JACKSON BLUFF HYDROELECTRIC PROJECT KAPLAN TURBINE. U-3
	246-900210	242		
D/M "A"	CONTRAT CONTRACT	NOMEN. P.BILL	ENS SUP %H ASM	PROJET PROJECT

REFERENCE POUR INGENIERIE SEULEMENT ENGINEERING REF. ONLY

REVISIONS		
A		

TOLERANCES D'USINAGE POUR DIMENSIONS & CARACTERISTIQUES NON LIMITEES
TOLERANCES FOR NON - LIMITED DIMENSIONS & FEATURES FOR MACHINING

DIM PLUS DE / DIM OVER	0	2	6	25	80	160	320	470	630
A / TO	2	6	25	80	160	320	470	630	1000
LINEAIRE / LINEAR	±0.015	±0.015	±0.03	±0.03	±0.08	±0.10	±0.15	±0.20	±0.25
CONCENTR. Ⓜ	0.003	0.005	0.08	0.12	0.020	0.040	0.033	0.070	0.14
GEOMETR. ⌭, ⊥, //	0.01	0.02	0.03	0.04	0.05	0.06	0.09	0.12	0.12

TOLERANCES NON LIMITEES POUR POSITION ⌖ DES CENTRES DE TROUS
TOLERANCES FOR NON LIMITED POSITION ⌖ OF HOLE CENTERS

PLUS DE / OVER	0	0.75	1.25	2.0	5.0	8.0
A / TO	0.75	1.25	2.0	5.0	8.0	-
TOLERANCE	0.06	0.08	0.12	0.18	0.25	0.40

DIM EN POUCES / DIM IN INCHES
ECHELLE-SCALE 3" = 12"
DESSINE PAR DRAWN C.D. VERIFIE CHECKED R.E.
APPROUVE APPROVED
DATE 62/04/09
PROJECTION

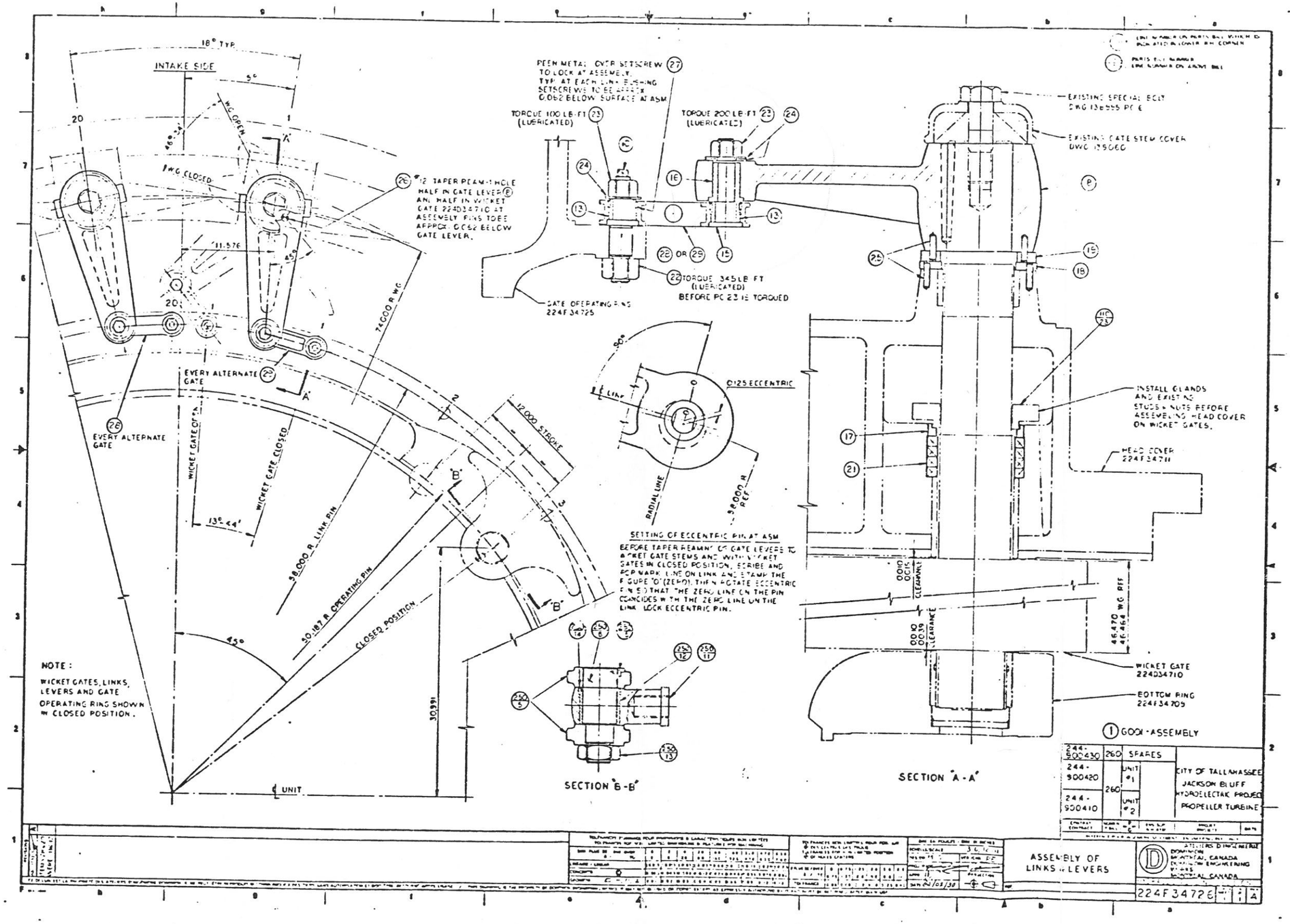
OIL LEVEL INDICATOR & FLOAT SWITCH

ATELIERS D'INGENIERIE DOMINION MONTREAL CANADA
DOMINION ENGINEERING WORKS MONTREAL CANADA

HYDRAULIC TURBINE DIVISION

226D34642

CE DESSIN EST LA PROPRIETE DES ATELIERS D'INGENIERIE DOMINION. IL NE PEUT ETRE REPRODUIT NI COMMUNIQUE A DES TIERS SANS AUTORISATION ET DOIT ETRE RETOURNE APRES USAGE
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18° TYP.
INTAKE SIDE
5°
20
W.G. OPEN
W.G. CLOSED
11.576
20°
24000 R W.G.
EVERY ALTERNATE GATE
EVERY ALTERNATE GATE
WICKET GATE OPEN
WICKET GATE CLOSED
13° 44'
12.000 STROKE
38.000 R. LINK PIN
30.187 R. OPERATING PIN
CLOSED POSITION
45°
30391
UNIT
PEEN METAL OVER SETSCREW TO LOCK AT ASSEMBLY. TYP. AT EACH LINK FASTENING SETSCREWS TO BE APPROX. 0.062 BELOW SURFACE AT ASM
TORQUE 100 LB-FT (LUBRICATED)
TORQUE 200 LB-FT (LUBRICATED)
GATE OPERATING RING 224F34725
TORQUE 345 LB FT (LUBRICATED) BEFORE PC 23 IS TORQUED
0.125 ECCENTRIC
RADIAL LINE
38.000 R REF
SETTING OF ECCENTRIC PIN AT ASM
BEFORE TAPER REAMING OF GATE LEVERS TO WICKET GATE STEMS AND WITH WICKET GATES IN CLOSED POSITION, SCRIBE AND PUNCH MARK LINE ON LINK AND STAMP THE FIGURE "0" (ZERO). THEN ROTATE ECCENTRIC PIN SO THAT THE ZERO LINE ON THE PIN COINCIDES WITH THE ZERO LINE ON THE LINK LOCK ECCENTRIC PIN.
NOTE :
WICKET GATES, LINKS, LEVERS AND GATE OPERATING RING SHOWN IN CLOSED POSITION.
SECTION B-B
EXISTING SPECIAL BOLT DWG 136555 PC 6
EXISTING GATE STEM COVER DWG 135060
INSTALL GLANDS AND EXISTING STUDS + NUTS BEFORE ASSEMBLING HEAD COVER ON WICKET GATES.
HEAD COVER 224F34711
0.010 DOCK CLEARANCE
0.010 DOCK CLEARANCE
46.470 46.464 W.G. REF
WICKET GATE 224D34710
BOTTOM RING 224F34709
SECTION A-A
1 OFF - ASSEMBLY
244-900430 260 SPARES
244-900420 260 UNIT #1
244-900410 260 UNIT #2
CITY OF TALLAHASSEE JACKSON BLUFF HYDROELECTRIC PROJECT PROPELLER TURBINE
ASSEMBLY OF LINKS & LEVERS
DOMINION BRIDGE COMPANY LIMITED MONTREAL CANADA
224F34726 A

PART 5

GATE OPERATING RING ARRANGEMENT

5.1 GATE OPERATING RING

Reference drawing no.	224F34725
Piece no.	05
Quantity	01
Inside bearing bore	98.500"-98.508"
Material	Cast iron
Weight - est.	5590 lbs.

5.1.1 BUSHING

Reference drawing no.	224F34725
Piece no.	12
Quantity	02
Height	4.480"
Ouside diameter	4.640"
Wall thickness	0.3095"
Material	Nylatron
Type	G.S.M.

5.1.2 BREAKE LINKS

Reference drawing no.	224F34727
Piece no.	12
Quantity	10
Thickness	1.469"
Length - between holes center	6.500"
Material	Bronze
Weight	6 lbs.

5.1.3 LINK

Reference drawing no.	224F34727
Piece no.	11
Quantity	10
Thickness	1.469"
Length - between holes center	6.500"
Material	ASTM A-36
Weight - est.	7 lbs.

PART 5

GATE OPERATING RING ARRANGEMENT

5.1.4 BUSHING

Reference drawing no.	224F34727
Piece no.	13
Quantity	40
Height	1.250"
Outside diameter	1.8195"
Wall thickness	0.279"
Material	Nylatron
Type	G.S.M.

5.1.5 THRUST WASHERS

Reference drawing no.	224F34726
Piece no.	19
Quantity	20
Thickness	0.625"
Outside diameter	7.250"
Inside diameter	4.750"
Material	Nylatron
Type	G.S.M.

5.1.6 ECCENTRIC PIN

Reference drawing no.	224F34727
Piece no.	10
Quantity	20
Length	6.875"
Eccentric offset	0.125"
Material	ASTM A-276, S41000, Condition "T"
Weight - est.	3 lbs.

5.1.7 PACKING

Reference drawing no.	224F34726
Piece no.	21
Quantity	20 sets
One set consist of	4 split rings
Model no.	4025
Outside diameter	6 1/8"
Cross section	5/8" square
Material	Teflon impregnated braided asbestos
Make	Anchor Packing Co.
Supplier	Robco Inc.