

NOTICE TO TENDERERS



MWH[®]

BUILDING A BETTER WORLD

Number Three

Date: 1 August 2016

Reference: 80507610

Client Fiji Electricity Authority

MWH New Zealand Ltd

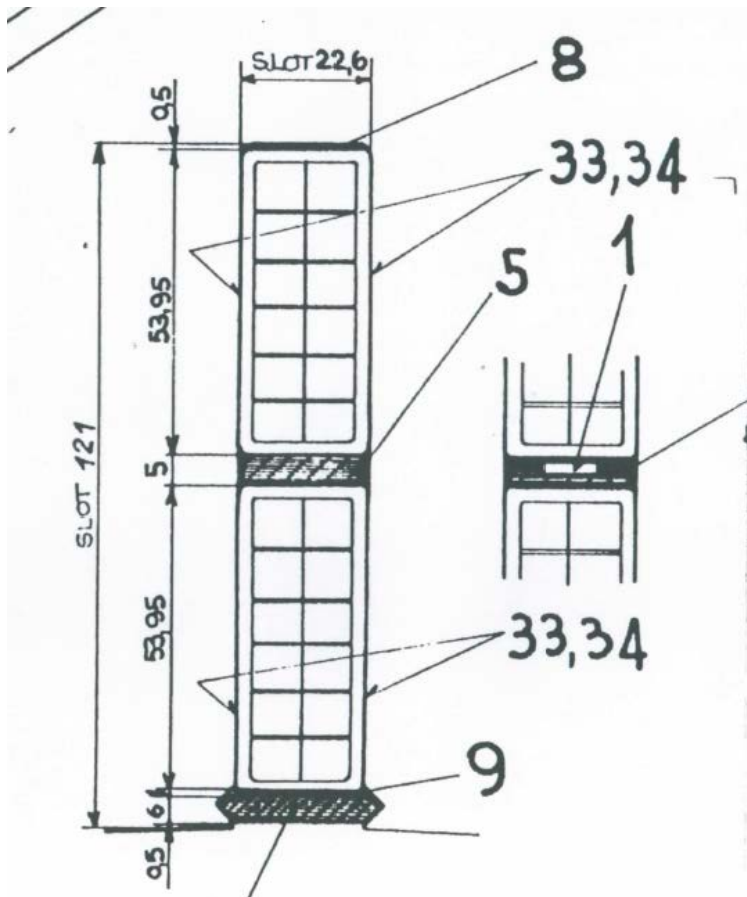
Project Wailoa Power Station Generator Rehabilitation
Tender No. MR58/2016

1. Please find attached responses to the following questions raised by bidders for the above project:-

Q1. Iron laminations, stator slot wedge

Is a drawing that details with accuracy the iron laminations or the stator slot wedge in detail available?

A1. We have been unable to locate any better information than is shown on drawing UW002040. As below



Q2. Stator re-wedging dimensions

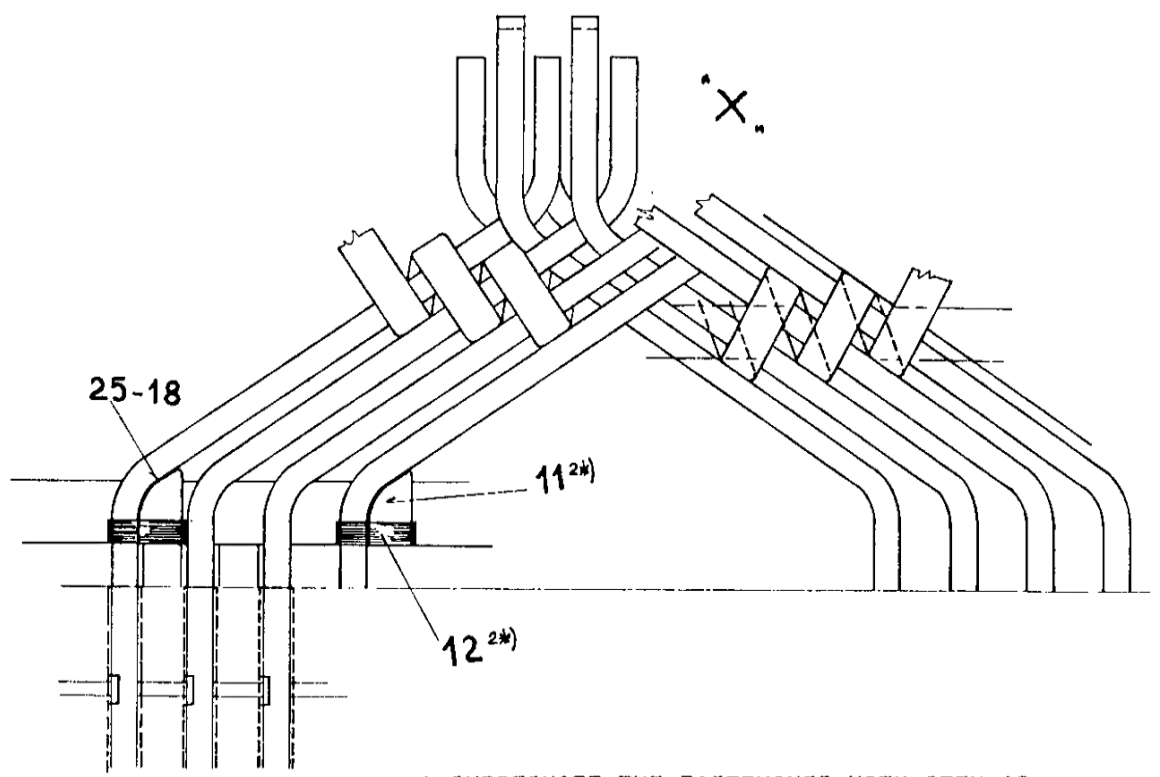
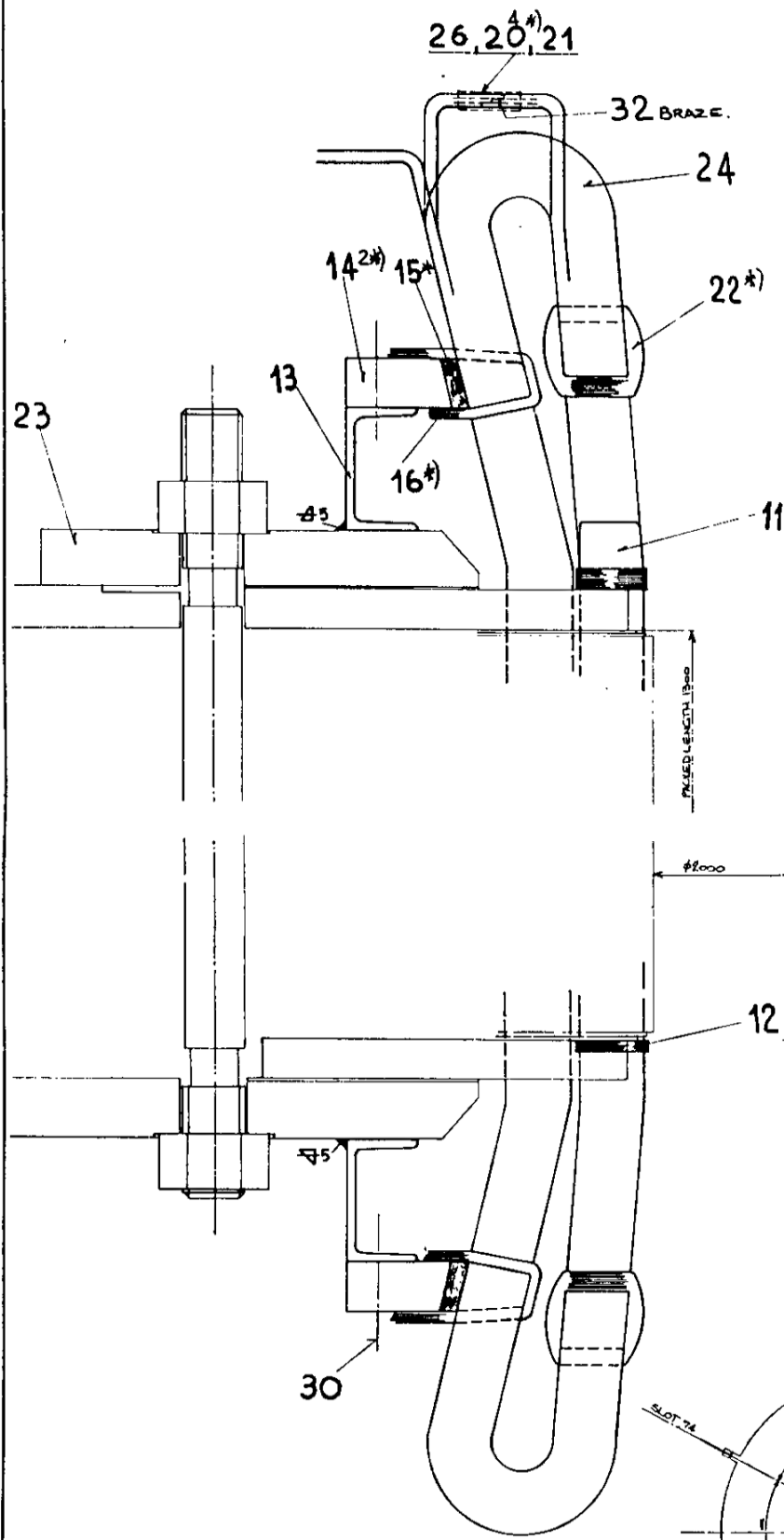
Regarding Stator re-wedging; is it possible to have the Slot Wedge dimensions displayed on drawing UW002040 verified? Dimensions on the reproduced version of said drawing available in the tender specification are unclear

A2. Please find attached a higher quality scan of drawing UW002040. The slot width is 22.6mm, slot depth 121mm and wedge thickness 6mm.

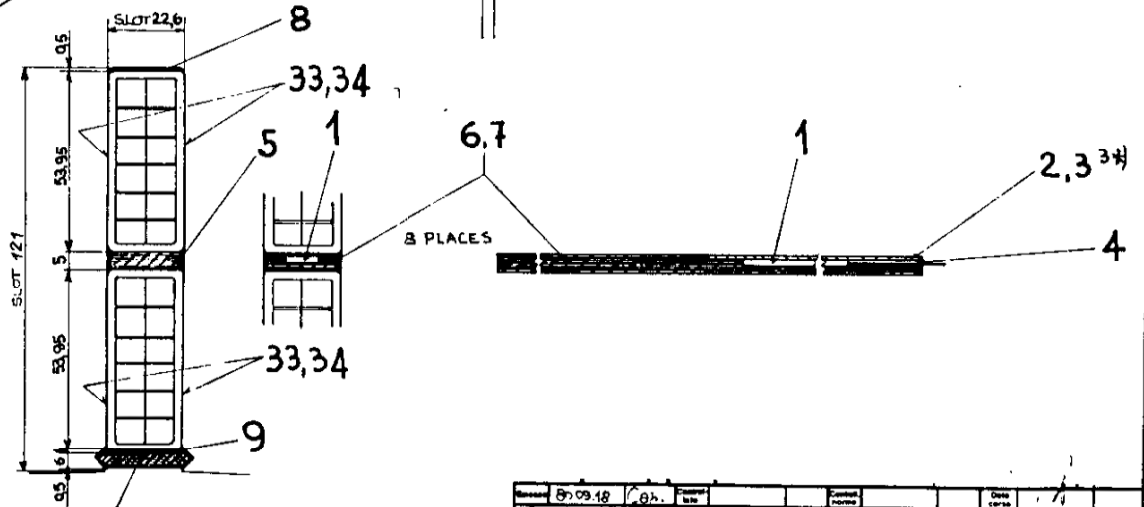
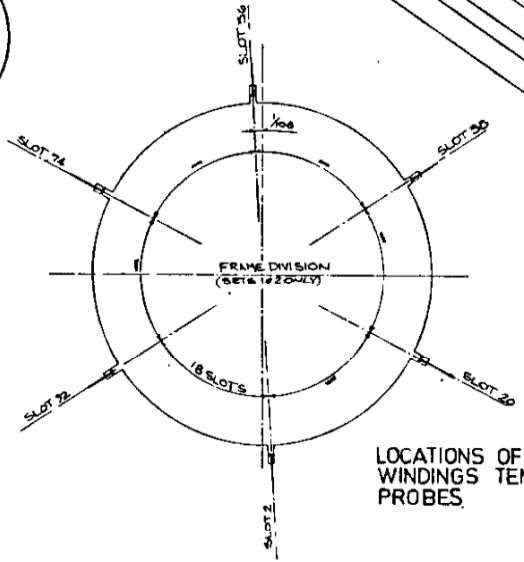
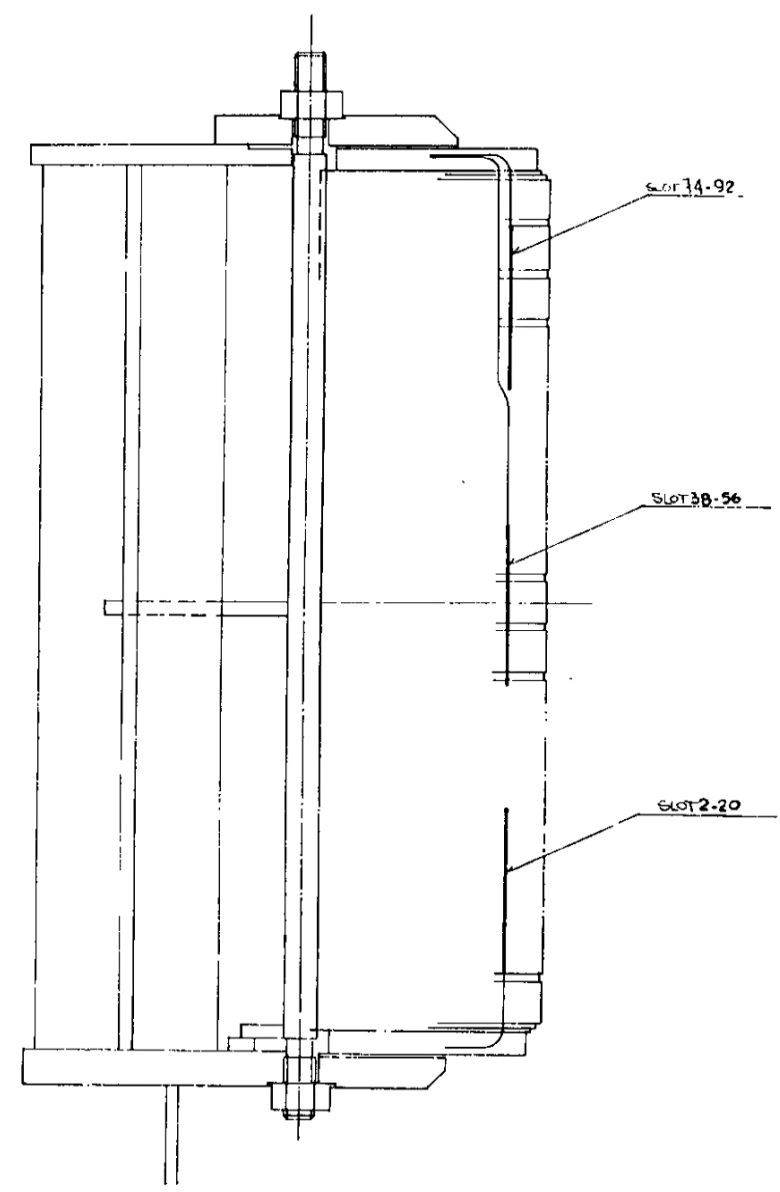
Q3. Spec section 8.9.6 ref drawings

Section 8.9.6 of tender spec makes reference to two drawings, UW404310 and 404309. Neither of the identified drawings appear in the drawings included with the tender documents. (Drawing UW103762 shows the upper guide and thrust bearing temperature monitors but with insufficient detail to accurately price. UW103738 shows the lower guide but again insufficient detail for accurate pricing of bearing temperature probes). The section also references part 9 of the O&M manual, only section 2 of the TIBB documentation appears to have been supplied

A3. Please find attached the requested drawings, plus some other relevant pages from Section 9 of the manual



- * IMPREGNATE THE FASTENINGS WITH ITEM 18
- 2* PAINT WITH ANTICORONA VARNISH
- 3* GLUE WITH ITEM 20 TO ITEM 6 & 7
- 4* INSULATION 3mm THK.
- 5* TEMPORARY KEY



AS INSTALLED
DATE: 8/2/85 SIGNED: [Signature]

FIJI ELECTRICITY AUTHORITY
DRAWING N°

Rev. No.	8/09/88	Rev.	01	Scale	1:1
Or.		Rev.		Scale	1:25
a	80.10.09	Rev.		Scale	
b	81.01.01	Rev.		Scale	
c	ANGULIZED	Rev.		Scale	

Senza lista pezzi separ.
 Lista pezzi separ. stesso N.
 Lista pezzi separ. altro N.
 Centro assom.
 Centro respons.

Des. Tipo Fornitura Lingua Foglio N. di Fogli
 TIBB STATOR WINDING 01-E 1 1
 UWX0020402

CONTENTS.

<u>Item No.</u>	<u>Description.</u>	<u>Pages.</u>
9.1.	Inductive Sensing Heads	2
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9.4.	Thermostat	8
9.5.	Level Indicator & Switch	3
9.6.	Resistance Temperature Detector	12
9.7.	Resistance Temperature Detectors	4
9.8.	Resistance Temperature Detectors	3
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9.11.	Generator Enclosure Heater	2
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9.13.	Brushes & Brushholders - Excitation	3

	1	THERMOSTAT (RA sec. F.O.)	UW 404503 P.1
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Tolleranze generali
sec HZN 401638
medio gross

Simboli
rugginita'
secor iZN 020007

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W9.01017/W01/1

- 2 stage Thermostat.
- Vibration - proof construction.
- 2 microswitches independently adjustable over the mid - 50% of measurement range for independent alarm & trip functions.
- M/Switch contacts to be rated 0.5A at 110 V DC.
- Measurement range -20 to +120 deg.C.
- S.S. Capilliary.
- S.S. Spiral bulb (Type 'A').
- Glycerine filled system.
- Surface mounted case.

Emesso <u>80.11.11 122</u>		Controll.		Contr. norme		Data corso <u>12/80</u>			
Origine <u>UW 404310</u>		Sostituisce.		Sost da		Senza lista pezzi separ <input checked="" type="checkbox"/>			
Mod.	a) Annullato ri-vestimento		Mod.	Mod.	Mod.	Scala	Lista pezzi separ stesso N <input type="checkbox"/>		
	Teflon 80.01.05					1:2,5	Lista pezzi separ altro N <input type="checkbox"/>		
						Centro assum			
						Centro respons <u>1WTK</u>			
 TITOLLO THERMOSTAT				Doc Tipo		Formato	Lingua	Foglio N	N logli
						A 4	I	1	1
UW404503									

	1	THERMOSTAT (RA sec. F.O.)	UW 404310 P.1
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Tolleranze generali sec. HZN 401638 medio gross

Simboli rugosità secondo GZN 020007

- 2 stage Thermostat.
- Vibration - proof construction.
- 2 microswitches independently adjustable over the mid - 50% of measurement range for independent alarm & trip functions.
- M/switch contacts to be rated 0.5A at 110 V DC.
- Measurement range -20 to +120 deg.C.
- Teflon insulated stainless steel capillary.
- Glycerine filled system.
- Surface mounted case.

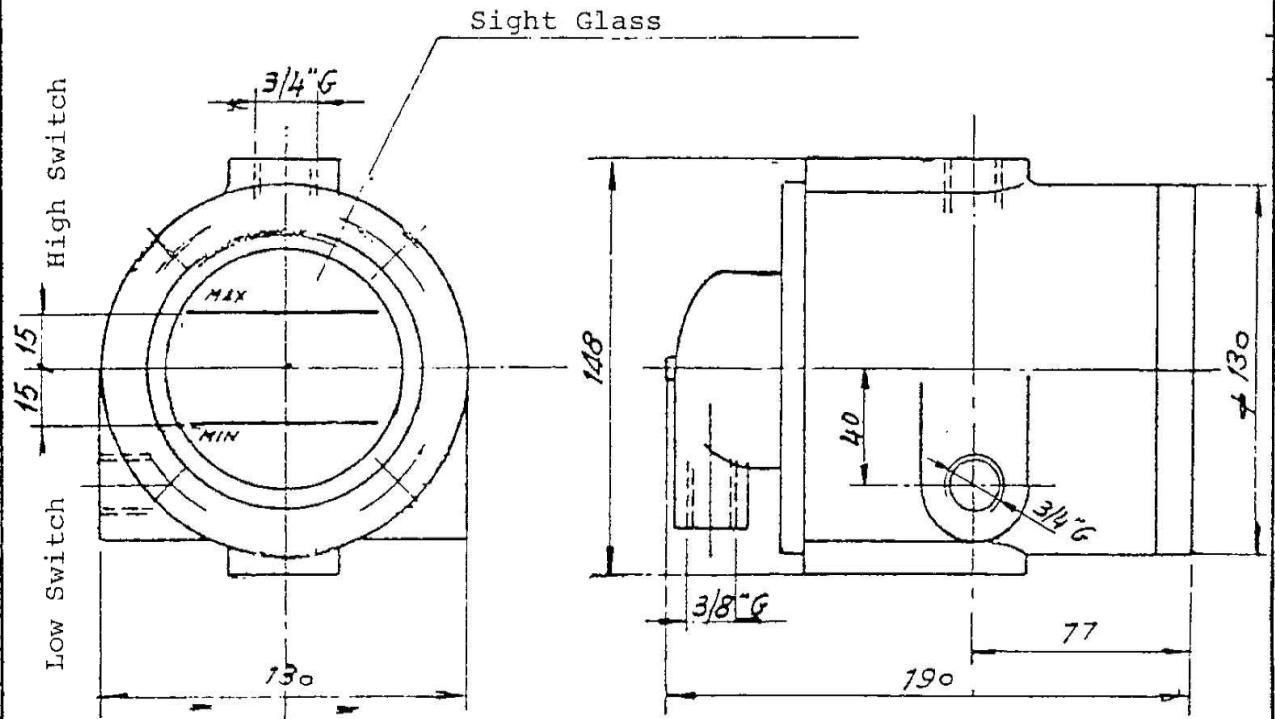
Emesso 80.09.03 126		Control		Conti nome		Data creso	
Origine		Capitolato		Società		Senza lista pezzi separati <input checked="" type="checkbox"/>	
a 80.10.09						Lista pezzi separati <input type="checkbox"/>	
						Lista pezzi separati <input type="checkbox"/>	
						entro assie	
						Centro loggias 1WTK	
						Doc. Tipo	
						A 4 I 1 1	
						UW404310	

THERMOSTAT

1 OIL LEVEL INDICATOR/SWITCH *UW 404934 P.1*
R.M. sec. F.O.

Tolleranze generali
 sec. HZN 401638
 medio gross

Numero Ingosita
 I.C.N. IZN 020007



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Emesso <i>81-06-18</i>		Controlli	Contr. norme	Data corso <i>W0.05048/W05/1</i>	
Origine <i>SCAI n. 2150</i>		Sostituisce	Sost. da	Senza lista pezzi separ <input checked="" type="checkbox"/>	
Mod	Mod	Mod	Mod	Scala	
				Lista pezzi separ. stesso N <input type="checkbox"/>	
				Lista pezzi separ. altro N <input type="checkbox"/>	
				Centro assum	
				Centro respons.	

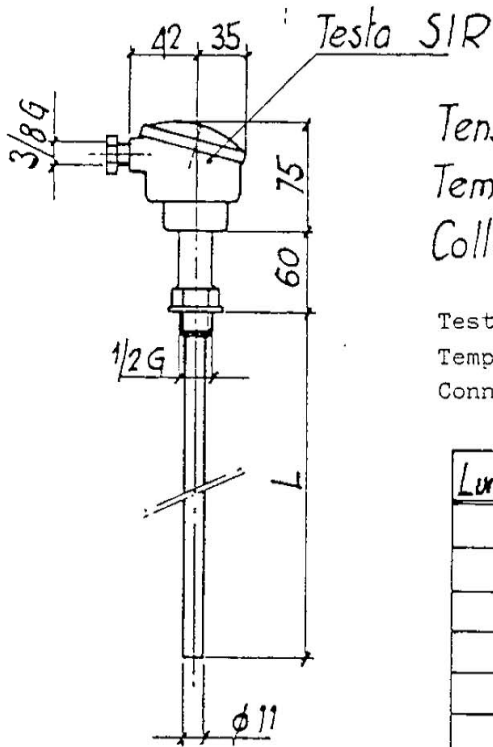
TIBB
 TECNIPRODOTTO ITALIANO
 SPINER 20776 20. 200

Titolo OIL LEVEL INDICATOR/SWITCH
 ASSEMBLY

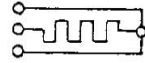
Doc. Tipo	Formato	Lingua	Foglio N.	N. fogli
	4	I	1	1

UW 404934

1..... R.T.D. UW403577 P.....
 A RM sec. F.O



Tensione di prova : 2000 V~
 Temperatura : <155°C
 Collegamento : 3 conduttori



Test voltage : 2000 V a.c.
 Temperature : <155°C
 Connection : 3 conductors

Lungh. L	Pos	Resistenza	Pos	Filo di misura Materiale
50	1	100Ω a 0°C	1	Platino
100	2	100Ω a 0°C	2	Nichel
150	3			
200	4			
250	5			
300	6			
350	7			
400	8			
450	9			
500	10			
550	11			
600	12			
700	13			

UW 403577 P 41

MANUFACTURER : SIS via Macchi 79 - Milano

Scelta... commessa per... senza...
 Centro...
 Centro...

Simboli per rugosità... GZN 02/0001...
 50
 0

A termini di legge c...
 diritto di riprodurre...
 a tutte...

Emesso 79-02-21 *[Signature]* Control- lato *[Signature]* Control- norme *[Signature]* Data corso 79-06-13

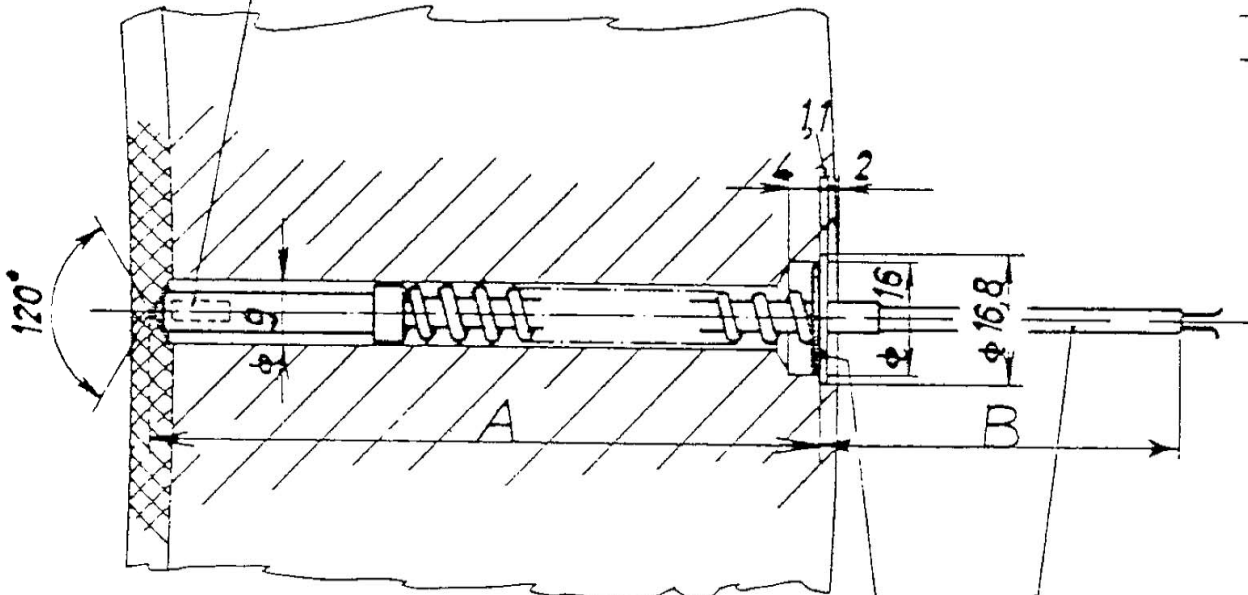
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Mod	Mod	Mod	Lista pezz. separ stesso N <input type="checkbox"/>	Lista pezz. separ altro N <input type="checkbox"/>
			Centro respons.	

TIBB TECNO MASIO ITALIANO BROWN BOVERI MILANO	Titolo RESISTANCE TEMPERATURE DETECTOR	Doc. Tipo	Formato	Lingua	Foglio N	N. fogli
			4	I	1	1
UW 403577						

1.... R.T.D.: UW 404309P.....
RA sec. F.O.

Thermoresistor with 1 platinum bulb, 100 Ohm at 0°C,
temperature coefficient $3,85 \times 10^{-3}$

*Termoresistenza a un bulbo, in Platino da 100 Ω a 0°C,
coefficiente di temperatura $3,85 \times 10^{-3}$*



Pos.	A	B	BEARING
1	99,5	1200	THRUST
2	42,5	1200	UPPER GUIDE
3	88,5	600	LOWER GUIDE
4			
5			
6			

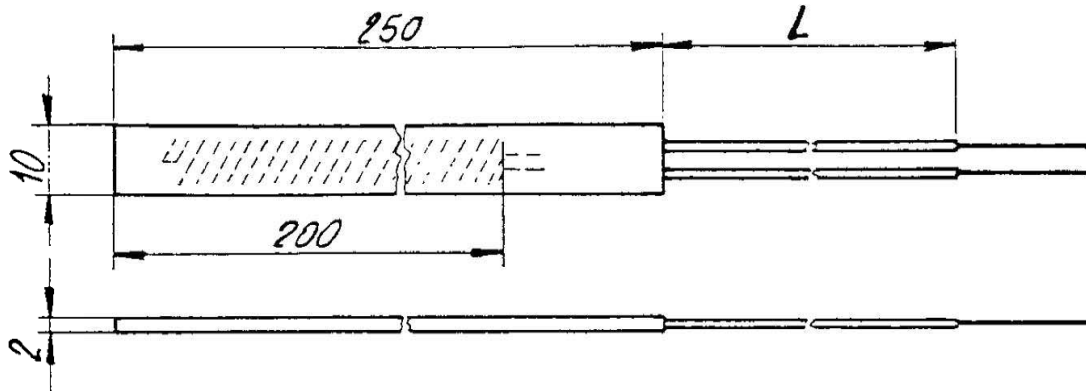
*Anello 16 UNI 7437-75
(di fornitura TIBB)
Cavo Cu 2x0,5 mm²
con isolamento resi-
stente all'olio caldo
a 110°C.*

Cu 2x0,5 mm pair with 110°C hot oil resisting insulation.

Scatole, appese per ruolo senza
 con la misura 110 x 100 x 10
 (Gest. mod. [quassobal])
 ec. 02N 020007
 50
 0
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Emesso	80.07.29	TRb	Control- istic	Control norme	Date forse	<i>[Signature]</i>
Origine		Sostituisce		Sostituisce da	Senza lista pezzi: separ <input checked="" type="checkbox"/>	
Mod		Mod		Mod	Scala	Lista pezzi: separ stesso N <input type="checkbox"/>
					1:1	Lista pezzi: separ altro N <input type="checkbox"/>
					Centro respons <input type="checkbox"/>	
TIBB TECNOMASO ITALIANO BROWN BOVER MILANO			Titolo: RESISTANCE TEMPERATURE DETECTORS			Doc. Tipo A 4
						Lingua I
						Foglio N. 1
						N. totali 1
UW 404309						

1..	R.T.D.	UW402943 P...
	RM sec. F.O.	



Pos.	1	2	3
L	2000	5000	700

Insulation class F (resistor buried in glassweb and epoxy resin)
 Test voltage: 1000 V a.c., respect. 1500 V d.c. for 60 s
 Pt resistor, 100 Ohm at 0°C

Isolamento classe F (resistore annegato in tessuto di vetro e resina epossidica)

Tensione di prova: 1000V ca. oppure 1500V ca. per 60s

Resistore di Pt da 100Ω a 0°C

Coefficiente di temperatura: $3,85 \cdot 10^{-3}$ sec. norme DIN 43760

N° 2 terminali flessibili di rame 0,5mm² isolati in teflon

Temperature coefficient: $3,85 \cdot 10^{-3}$ according to DIN standards 43760

No. 2 Copper flexible terminals 0,5 mm² with teflon insulation

W7.01021/011

Emesso	78-04-17	KR	Controlato		Controlli norme		Data corso	7-16-78	
Origine			Sostituisce			Sostituito da	Senza lista pezzi separ <input checked="" type="checkbox"/>		
Mod	A) Aggiunta P.3 il 28.09.19 Reb		Mod		Mod		Scala	Lista pezzi separ stesso N. <input type="checkbox"/>	
			Mod		Mod		1:1	Lista pezzi separ altro N. <input type="checkbox"/>	
								Centro respons.	
TIBB		Titolo				RESISTANCE TEMPERATURE DETECTOR			
TECNOMASIO ITALIANO BROWN BOVER MILANO		Doc. Tipo		Formato		Lingua		Foglio N.	N. fogli
				4		I		1	1
		UW402943							

Scatole ammesse per quote senza indicazione di tolleranza H2N 40/58 Grado medio X grossolano

sec GZN 020007

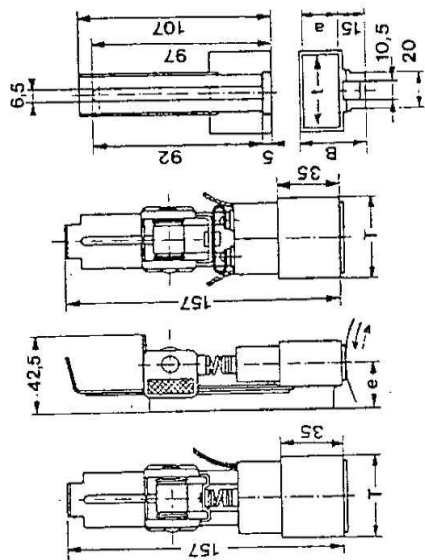
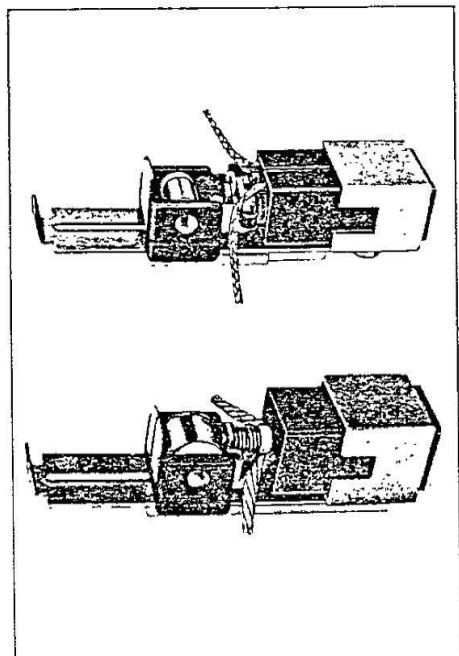
Simboli per rughe

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FERRAZ - **BUNG** - **BRUSHES**

LE CARBONE-LORRAINE AUSTRALIA PTY. LTD.
 Unit 12, 103 Majors Bay Road
 Concord, N.S.W. 2137 Australia
 Telephone 73 5480 Telex 72587

- Porte-balais à ressort ruban rouleau pour bagues
- Close coiled ribbon spring brushholders for slirings
- Bürstenhalter mit Rollbandfeder für Schleifringe
- Portascobillas con resorte cinta enrollada para anillos
- Portaspazzole con molla a pressione costante per anelli



Porte-balais BUNG et BUNGIF
 Brushholders BUNG et BUNGIF / Bürstenhalter BUNG et BUNGIF
 Portascobillas BUNG et BUNGIF / Portaspazzole BUNG et BUNGIF

Standard pressure: 0.180 daN/cm² / Standard-Druck: 0.180 daN/cm²
 Precision standard: 0.180 daN/cm² / Precisione standard: 0.180 daN/cm²

txa (mm)	réf. BUNG (1)	réf. BUNGIF (2)	e (mm)	B (mm)	T (mm)
32 x 20	N 43183	S 43187	25,7	38	37
32 x 25	P 37296	M 37024	27,5	42	38
32 x 32	P 23910	A 25277	31	50	39

Balais / Bürsten / Escobillas / Spazzole

BUNG Code	BUNGIF Code	BUNGIF Code	BUNGIF Code	BUNGIF Code
64	8062	64	8162	8164
64	8063	64	8163	8164
64	8064	64	8164	8164

SECTION 9.

TIBB

9.1.2. Miscellaneous Equipment Data. Page 3 of 3.

ELECTRO-GRAPHITE
BRUSH TYPE EG 34 D
MATERIAL DATA.

Resistivity
1100 microhm/cm

Voltage Drop
'm'

Shore Hardness
35

Modulus of
Elasticity
625 kg/sq.cm

Apparent Density
1.58

Bending Strength
270 kg/sq.cm

Coefficient
of Friction
'm'

Current Density
12A/sq.cm

Allowable Speed
50 metre/sec.

