

## A



## IN

WHEN THE MIXER IS IN OPERATION EITHER IN MANUAL, REVERSE OR AUTOMATIC, I122-01 AND KQ122-01 ARE ACTIVATED.

WHEN TRIPS ON THE MIXER ARE ACTIVATED, THE MIXER SWITCHES OFF AND THE TRIP INDICATOR IS ILLUMINATED.

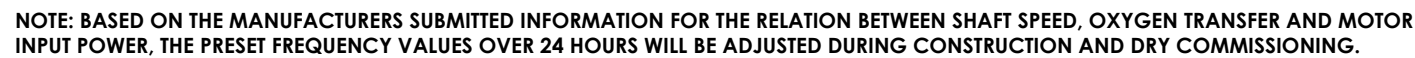
**NOTE 8:**

IN AUTOMATIC MODE, THE SURFACE AERATOR RUNS AT VARIABLE SPEED (SC24-01) WHICH RECEIVES SIGNALS FROM A PRE-PROGRAMMED LOGIC CONTROLLER TO MATCH THE DIURNAL LOAD VARIATION OF THE RAW WASTEWATER. SET POINTS FOR THE SIX SURFACE AERATORS SHALL BE DETERMINED INDEPENDENTLY AND USED TO CONTROL THE SPEED PER AERATOR INDIVIDUALLY. WHEN THERE IS A POWER OUTAGE OR AT NIGHT, THE SPEED SWITCH CONNECTED TO THE VSD SLOWS DOWN THE SURFACE AERATOR SPEED. WHEN SURFACE AERATOR IS OPERATION THE RUN INDICATOR ILLUMINATES.

AN IN-FIELD E-STOP (HS24-01), ISOLATOR (HS24-02) AND ON PANEL E-STOP (HS24-03) ARE SET CUT POWER TO THE SURFACE AERATOR, WHETHER IN MANUAL, OFF OR AUTOMATIC MODE. A STOP INDICATOR IS ILLUMINATED WHEN THE SURFACE AERATOR IS OFF.

WHEN TRIPS ON THE SURFACE AERATOR ARE ACTIVATED, THE SURFACE AERATOR SWITCHES OFF AND THE TRIP INDICATOR IS ILLUMINATED.

Model diurnal load variation for Variable Speed Drive adjustment, with peak load indicated in bold																									
Power/motor	(kW)	11	9	8	7	6	8	12	20	27	<b>28.5</b>	26	25	24	23	22	20	22	25	26	27	25	22	20	13
Speed (gear)	(rpm)	36	32	30	28	26	30	38	49	58	<b>59.7</b>	57	56	54	53	52	49	52	56	57	58	56	52	49	38
Frequency	(Hz)	30	27	25	24	22	25	31	41	49	<b>50.0</b>	48	47	46	45	44	41	44	47	48	49	47	44	41	33
Time	(h)	1	2	3	4	5	6	7	8	9	<b>10.0</b>	11	12	13	14	15	16	17	18	19	20	21	22	23	24



## C



REFER TO DRAWING 10909001-7000 FOR PROCESS AND INSTRUMENTATION LEGEND.

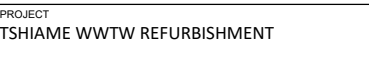


**A** AFTER CONSTRUCTION CONTRACT HAS COMMENCED

COPYRIGHT IS VESTED IN V3 CONSULTING ENGINEERS  
IN TERMS OF THE COPYRIGHT ACT (ACT 98 OF 1978)



vaal central  
water.naturally



DRAWING NO.	REVISION
10909001 - 7020	T1

DESIGNED:	JAW	CHECKED: ECSA PR NO: 20130658	<i>J. de laet</i>
DRAWN:	SP	SCALE: N.T.S	A3
APPROVED: ECSA PR NO: 20130658	<i>J. de laet</i>	INCEPTION DATE: JUL'24	
FILE PATH:	SHAREPOINT / BLOEMFONTEIN - 10909001 TSHIAME WYTW / 04 DOC PROC / 04 DRAW		



ISSUED FOR TENDER