



TO PAL/SZX- Anthony Ngai, SK So, CP Wong, KM Wong, CY Ming, MX Liu, ZQ Zhou, YZ Yi
PAL- SY To, Rebecca Fu, Tony Evans, Samuel

JOB NO	Rev.
Y15009	2
DOC NO: M / SPS / Y15009/ R2	

SPECIFICATION SHEET															Customer : TRW Pontypool EQ-P7-5189 R4										Auto Al Anodizing Line										13-May-15							
Rev	No.	Process	Chemical Content	Process Sequence				Pos.	Max. Imm. Time (Sec)	Tank Dimension (mm)			Volume (L)	Free-Board	Tank MAT.	Water IN	Drainage	Temp (C)	Heating			Cooling			Agitation	Pump (L/H)			LV	Rectifier				Exhaust (CMH)		Flow Control/ Monitoring						Remarks
				P1	P2	P3	P4			DOT	FTB	D				Type	Type		TYPE	MAT.	KW	TYPE	MAT.	KW	Air	Eductor	Filter	QTY		V	A	AN/C A	Push	Pull	Auto Top Up	OF	TS	AD	FM	Cond		
		Mainline																																								
2	1	Load/ Unload						1		500	2600				MS																									- indexing function		
2	2	Cooling Storage						1		500	2600																															
2	3	Dryer						1	Max	500	2600	1700	1820	300	SS304			65-100	Electric																							
2	4	Chromi Al Seal Rinse						1	30	500	2600	1700	1820	300	20mm PP	TBC	R1							x											X			X		-Flowmeter same as Y12022		
2	5	Chromi Al Seal						1	180	500	2600	1700	1820	300	20mm PP	TBC	G1									F1: 3700	x					285	2379	X			2			- Auto Top-up by Level - Auto-dosing with pH control within 3.7-3.95 - Drain with quick connector - Sampling point		
2	6	Degreasing						1	155	500	2600	1700	1820	300	SS304	TBC	G1	max. 70	Electric	SS304	30				E1: 3700	F2: 3700	x					271	2260	X						- Auto Top-up by Level - Drain with quick connector - Sampling point		
2	7	Counterflow Rinse						1	30	500	2600	1700	1820	300	20mm PP	TBC	R1							x										X								
2	8	Counterflow Rinse						1	30	500	2600	1700	1820	300	20mm PP	TBC	R1							x										X								
2	9	Counterflow Rinse + Top Spray						1	30	500	2600	1700	1820	300	20mm PP	TBC	R1							x			x							x	X	X		X	X	- Auto Top-up by Conductivity is cancelled -Flowmeter same as Y12022		
2	10	Nitric Desmut (Space Provision for Ultrasonic)						1	170	740	2600	1700	2694	300	SS304 + PP Liner	TBC	G2	50	Electric	Ti	30				X		F3: 5400	x					528	4401	X			1			- Auto Top-up by Level - Space only for Ultrasonic, Further Expansion - Heater, Filter and Auto-dosing are not supplied, just electrical control components only - Drain with quick connector - Sampling point	
2	11	Counterflow Rinse						1	30	500	2600	1700	1820	300	20mm PP	TBC	R1							x										X								
2	12	Counterflow Rinse						1	30	500	2600	1700	1820	300	20mm PP	TBC	R1							x										X								
2	13	Counterflow Rinse + Top Spray						1	30	500	2600	1700	1820	300	20mm PP	TBC	R1							x				x						x	X	X		X	X	- Auto Top-up by Conductivity is cancelled -Flowmeter same as Y12022		
2	14	Counterflow Rinse + Top Spray						1	120	500	2600	1700	1820	300	20mm PP	TBC	R1							x				x						x	X	X		X	X	- Auto Top-up by Conductivity is cancelled -Flowmeter same as Y12022		
2	15	Counterflow Rinse						1	40	500	2600	1700	1820	300	20mm PP	TBC	R1							x										X								
2	16	Counterflow Rinse						1	30	500	2600	1700	1820	300	20mm PP	TBC	R1							x										X								
2	17	Counterflow Rinse + Drag-out						1	10	500	2600	1700	1820	300	20mm PP	TBC	R1							x										X						-Level control will be added for air-lift		
2	18	Class 'A' Anodising						1	564	860	2600	1700	3130	300	20mm PP	TBC	G2	10-13				Chilling Water	Alloy	TBC	X	Circulation : 6300	F4: 6300	x	1	TBC	TBC	2A/1C	785	4080	X			1				- Offline Heat exchanger for cooling - Auto Top-up by Level - Drain with quick connector - Sampling point
2	19	Space only "Class 'A' Anodising" (Further Expansion)						1	564	860	2600	1700	3130	300	20mm PP	TBC	-	10-13				Chilling Water	Alloy	TBC	X	Circulation : 6300	F4: 6300	x	1	TBC	TBC	2A/1C	785	4080	X			1				- Offline Heat exchanger for cooling - Auto Top-up by Level - Drain with quick connector - Sampling point



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				P1	P2	P3	P4			DOT	FTB	D				Type	Type		TYPE	MAT.	KW	TYPE	MAT.	KW	Air	Eductor	Filter		QTY	V	A	AN/C A	Push	Pull	Auto Top Up	OF	TS	AD	FM	Cond									
		Offline																																															
2	A1	Dosing Tank for Chromi Al Seal	5% Sulphuric Acid											PE																																			
2	A2	Dosing Tank for Chromi Al Seal	1% Caustic Soda											PE																																			
2	A3	Dosing Tank for Nitric Desmut												PE																												- Auto-dosing with electrical control part only, Further Expansion							
2	A4	Dosing Tank for Class 'A' Anodising												PE																																			
2	A5	Space only "Dosing Tank for Class 'A' Anodising" (Further Expansion)												PE																																			

Remarks

- DOT = Direction of Travel

FTB = Front to Back

D = Depth

LV = Level protection

FB = Anode with pick up

TP EX = Transporter Extraction

MAT. = Material
- OF = Overflow weir

TP = Top Spray

AD = Auto Dosing system

CD = Cup Dosing system

MU = Make Up system

Circ. = Circulation
- FM = Flowmeter

Cond = Conductivity meter

pH = pH meter

R = Rinse & Wash Waste

C = Concentrate Waste

CMH = Cubic Meter per Hour

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