

Chemical Solution Monitors

PROCESS	CHEMICAL	Model	Measurement Range (%)				
Particle removal	SC-1 (APM)	CS-131 *	NH ₃ 0-1 0-1 0-3 0-0.3 0.2-0.8 0-5 0-2	H ₂ O ₂ 0-1 0-5 0-7 0.5-1 0.2-0.8 0-10 0-20	H ₂ O 98-100 94-100 90-100 98.7-99.5 98.4-99.6 85-100 78-100		
		CS-151	NH ₃ 0-0.3 0.5-1.5	H ₂ O ₂ 0-0.3 0-0.5	H ₂ O 99.4-100 98-98.5		
	Alkali / H ₂ O ₂	CS-220B	Alkali 0-0.5	H ₂ O ₂ 0-3	H ₂ O 96.5-100		
		CS-139E	TMAH 0-0.5	H ₂ O ₂ 0-2	H ₂ O 97.5-100		
Metallic removal	SC-2 (HPM)	CS-152	HCl 0-2 0-10 0-15	H ₂ O ₂ 0-2 0-10 0-5	H ₂ O 96-100 80-100 80-100		
			AM-1	CS-131	Shown above *		
Post RCA	MC-1 / MC-1-SP	CS-131	Shown above *				
	Reps-203	CS-131	Shown above *				
	SC-1 (APM)	CS-131	Shown above *				
Organic removal	Alkali / H ₂ O ₂	CS-220B	Alkali 0-0.5	H ₂ O ₂ 0-3	H ₂ O 96.5-100		
		CS-139E	TMAH 0-0.5	H ₂ O ₂ 0-2	H ₂ O 97.5-100		
	SPM	CS-150 **	H ₂ SO ₄ 0-1 0-10 10-20 30-60 50-90 70-96 90-98	H ₂ O ₂ 0-1 0-10 20-30 10-20 0-10 0-5 0-1	H ₂ O 98-100 80-100 50-70 20-60 8-50 4-30 2-10		
			HCl	CS-152S	HCl 0-5 0-15	H ₂ O 95-100 85-100	
			H ₂ O ₂	CS-152H	H ₂ O ₂ 0-10 0-30	H ₂ O 90-100 70-100	
			O ₃	HZ-960	O ₃ 0-0.01/0.02/0.04		
			NH ₃	HF-960M	NH ₃ 0-0.5		
	CS-131S	NH ₃ 0-0.2 0-1 0-5 0-29			H ₂ O 99.8-100 99-100 95-100 71-100		
	Oxide removal	BHF	CS-137	NH ₄ F 0-10 4-5 15-21 15-25 16-18 19-21 19-21 25-30 29-31 32-34 35-38 37-39 39-40	HF 0-3 0.5-1.5 0-3 0-3 0-0.5 4-6 5-8 0-1 5-7 3-5 3-5 1-3 0-0.5	H ₂ O 87-100 93.5-95.5 76-85 72-85 81.5-84 73-77 71-76 69-75 62-66 61-65 57-62 58-62 59.5-61	
				FPM	CS-153	HF 0-0.5 0-1.5 0-10	H ₂ O ₂ 0-9 0-1 0-10
DHF				CM-210	HF 0-1/2/5/10/20/50		
					HF-960M	HF 0-0.5	
Resist removal				SPM	CS-150	Shown above **	
				CLK-888	CS-139K	XXXX 0.5-2	H ₂ O ₂ 1-5
BSG removal	H ₂ SO ₄ / HF			CS-133V	H ₂ SO ₄ 83-93 80-96 HF 0.5-1.5	HF 0-5 1-5 H ₂ O 2-4.5	H ₂ O 2-17 4-19 H ₂ SO ₄ 94-98
Oxide / Ni etching	HF / Ethylene glycol			CS-138	HF 0-5 5-10	H ₂ O 0-10 7-12	EG 85-100 78-88
					CS-138W	HF 0-5 0-5	EG 85-100 0-10
Al etching	HNO ₃ / CH ₃ COOH / H ₃ PO ₄			CS-139J	HNO ₃ 0-5 1-3 1.5-5.5 4-6 4-7 8-13	CH ₃ COOH 0-3 8-12 9-11 8-10 7.5-10.5 8-13	H ₃ PO ₄ 65-75 70-75 65-75 65-70 69-75 60-65
Polymer removal	HNO ₃ / HF	CS-153N	HNO ₃ 60-70 50-60 57-65 69-70 68.5-70	HF 0-5 5-10 3-8 0-0.5 0-1	H ₂ O 25-45 30-45 27-40 29.5-31 29-31		
			H ₂ O / Amine	CS-135B	H ₂ O 26-50	A.B.F 3-10	AMINE 45-71
			H ₂ O / Other	CS-135D	H ₂ O 10-30	Others 70-90	
			EF-1	CS-135E	HF 0-0.2	H ₃ PO ₄ 0.2-5	Others 94.8-99.8
			ALKALI	CS-139R	ALKALI 2-3	H ₂ O ₂ 0-3	Others 94-98
Low-K etching	LK-1	CS-135A	H ₂ O 90-100	XXX 0-10			
Others	HNO ₃ / HCl	CS-152N	HNO ₃ 5-12 8-10	HCl 15-25 17-21	H ₂ O 63-80 69-75		

Notes: ● Please contact HORIBA as to the details of the specifications of each model as well as regarding the possible chemicals and ranges to be measured.
● Fiber type models are also available for all models in the above list.