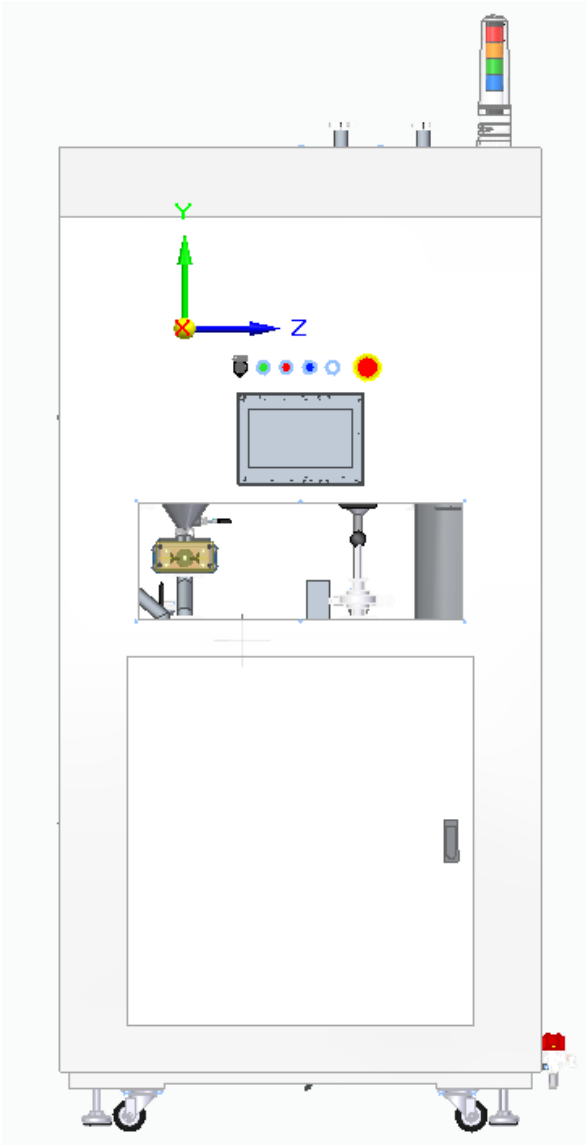
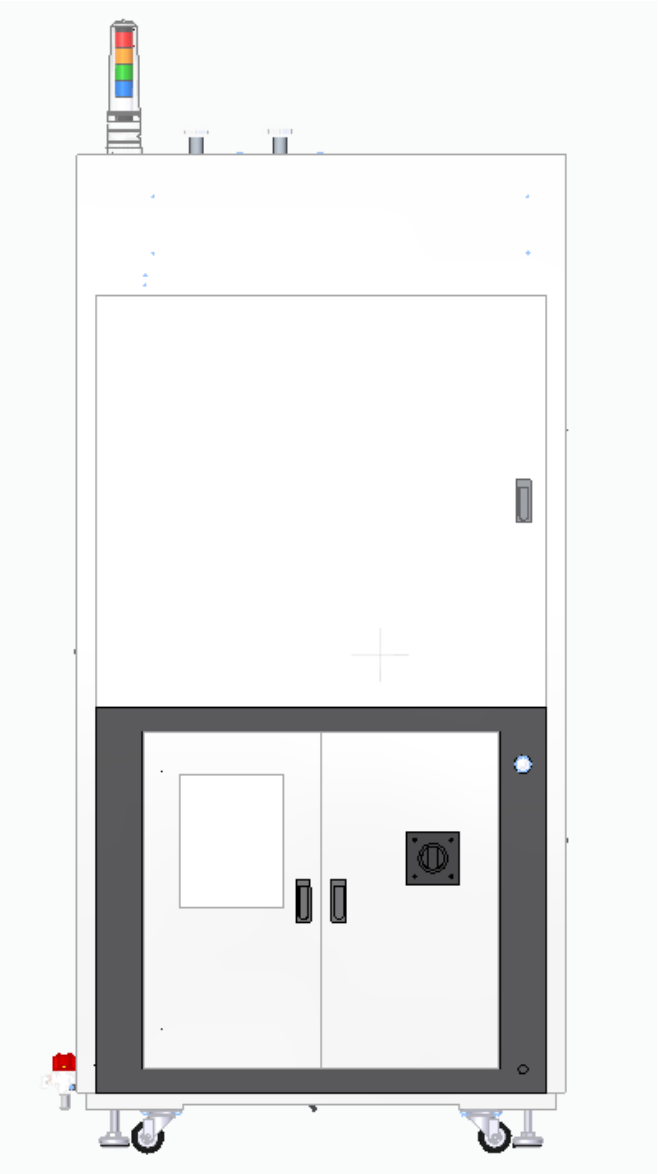
工業技術研究院
Industrial Technology
Research Institute

ITRI IPCM粉末系統設備使用說明書

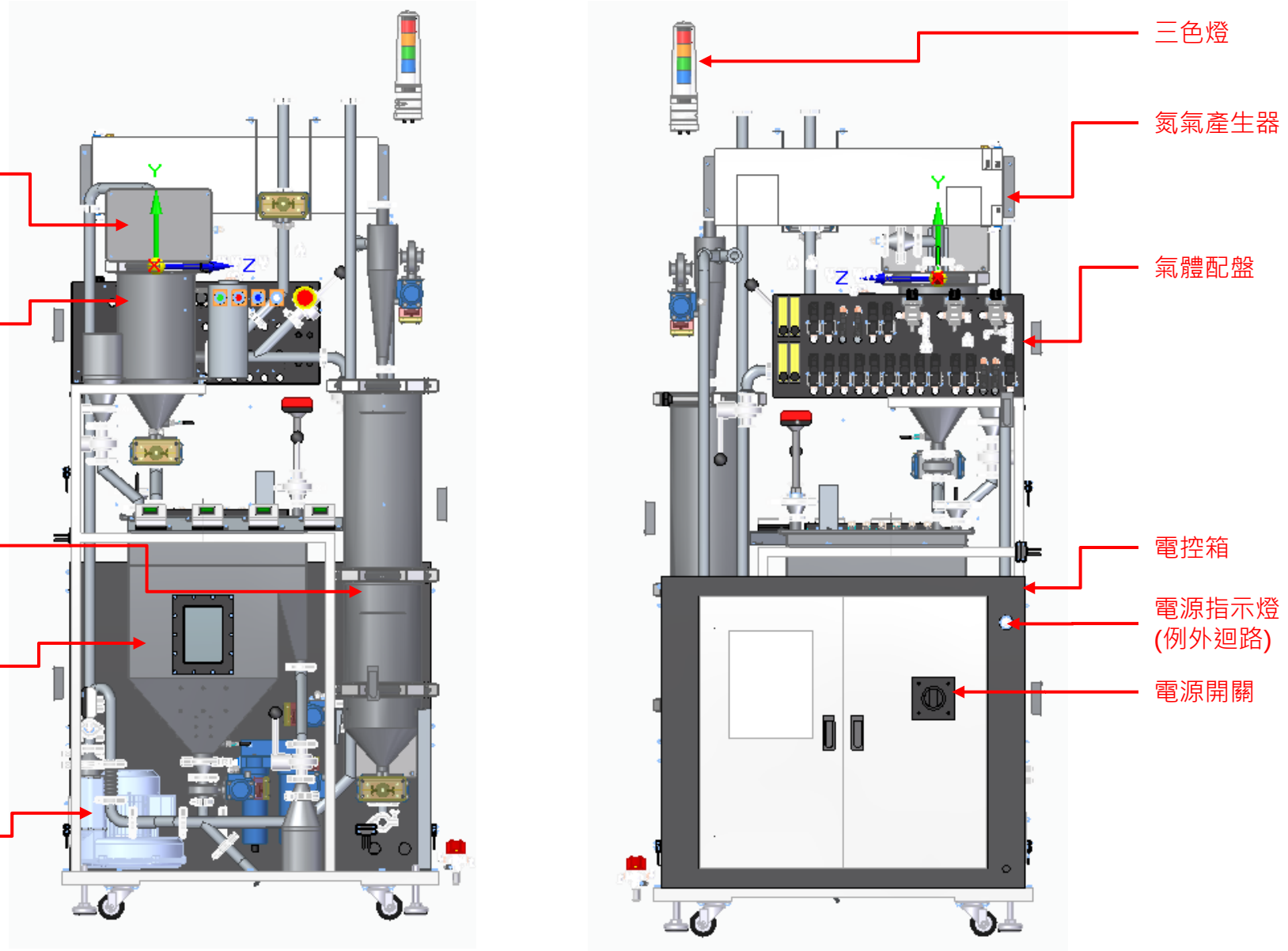
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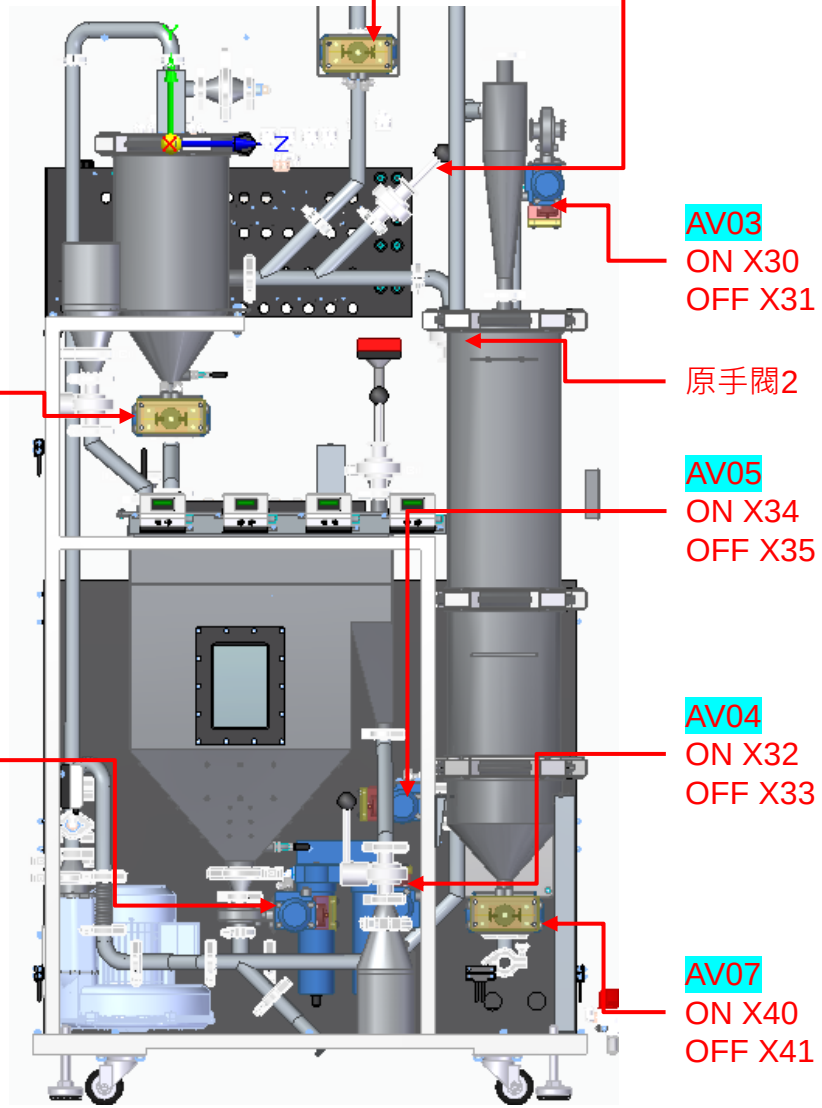
- 3Phase
- 3Wire+1Ground
- Voltage:220V
- Max.Amp:10A

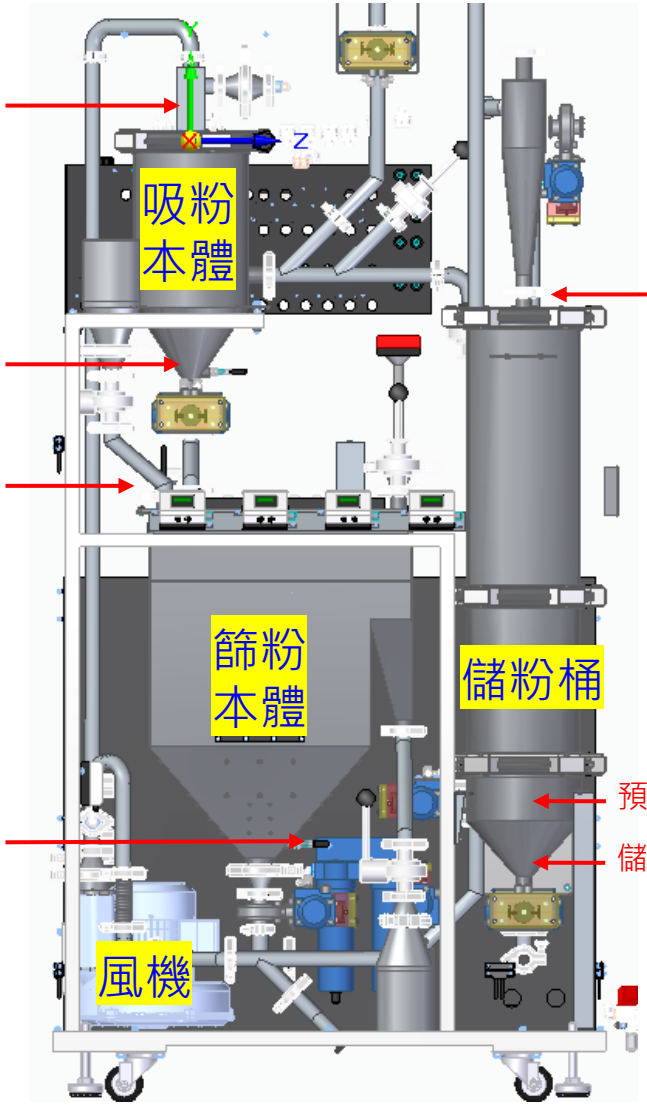
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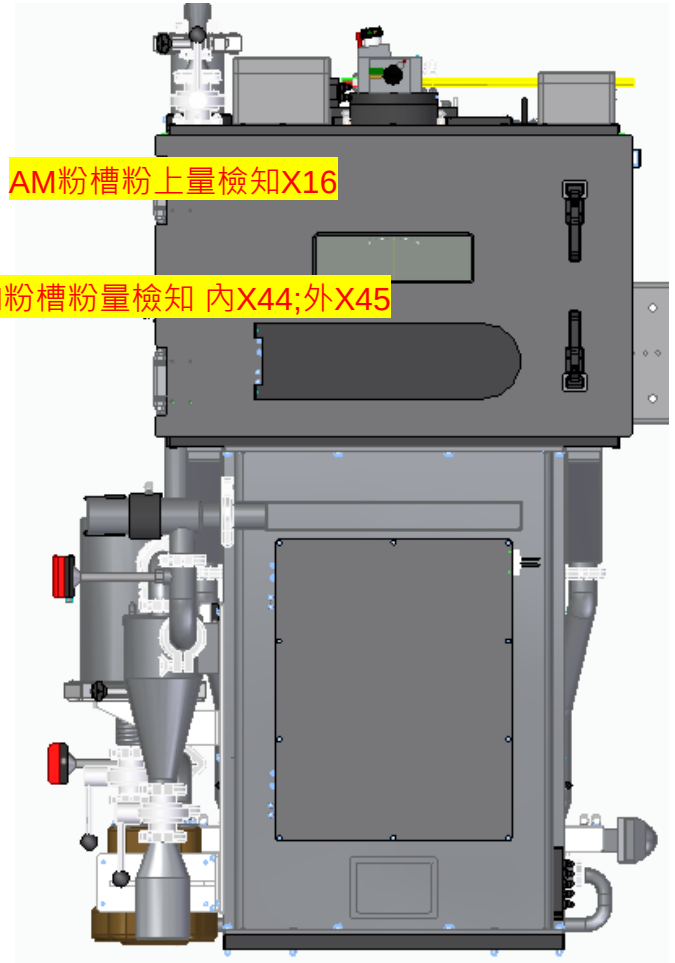
I/O位置(1/2)

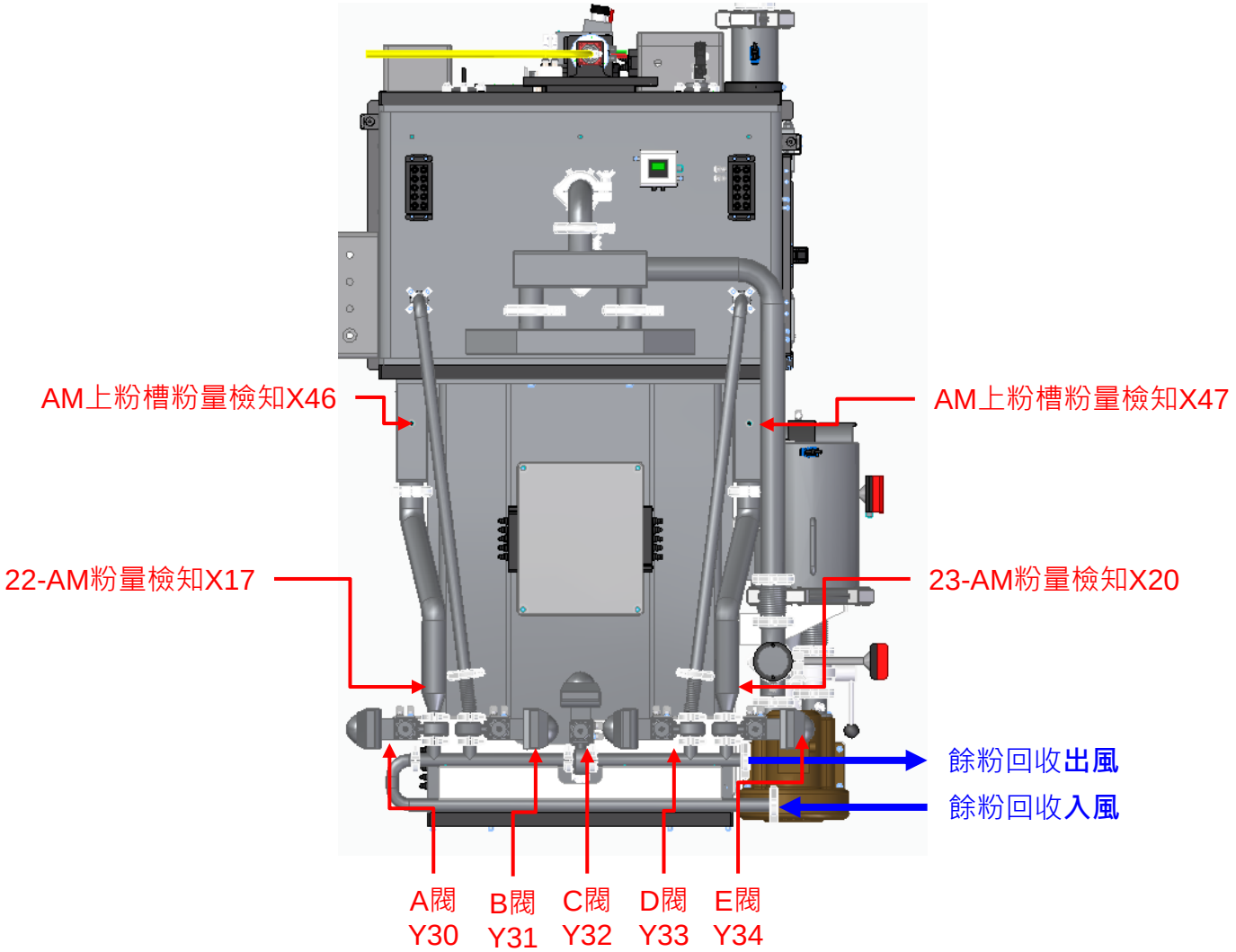




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I/O位置(2/2)



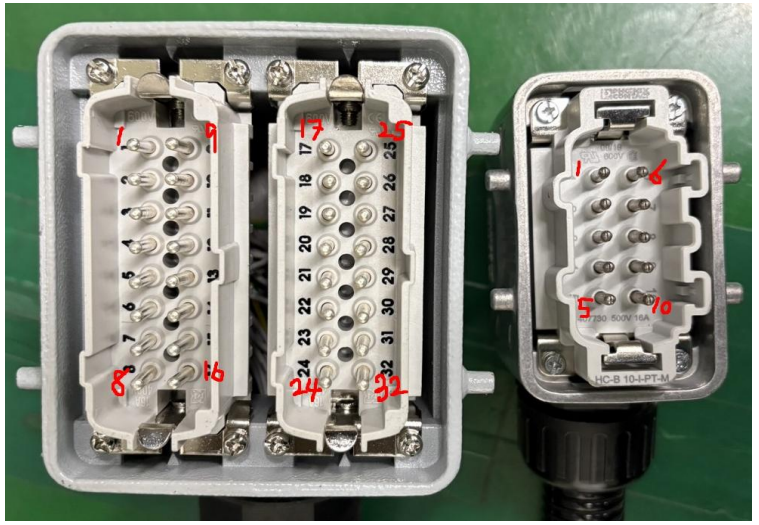


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與AM對接頭Pinout/IO

大接頭左	AM(female)	IPCM(male)	Function	大接頭左	AM(female)	IPCM(male)	Function
1	-	-	-	9	DI69	X46	AM餘粉管左上粉量足粉
2	N10	N10	接地	10	DI70	X17	AM粉量檢知22
3	DI83	Y30	AM閥A	11	DI71	X47	AM餘粉管右上粉量足粉
4	DI84	Y31	AM閥B	12	DI72	X20	AM粉量檢知23
5	DI85	Y32	AM閥C	13	DI29	X44	AM粉槽檢知(內)
6	DI86	Y33	AM閥D	14	DI30	X45	AM粉槽檢知(外)
7	DI87	Y34	AM閥E	15	-	-	-
8	DI68	X16	AM粉槽上檢知	16	DO76	X50	供粉流程
小接頭	AM(female)	IPCM(male)	Function	小接頭	AM(female)	IPCM(male)	Function
1	**L1A**	**R**	**電源**	6	-	-	-
2	**L2A**	**S**	**電源**	7	-	-	-
3	**L3A**	**T**	**電源**	8	DI02/M0IO1	M0IN3	AM RDY/EMO
4	-	-	-	9	DI95	M0IO1	IPCM RDY/EMO
5	-	-	-	10	N10	N10	Ground

AM閥A~E由AM控制，而非IPCM直接控制電磁閥。
例如: IPCM Y30 ON➔AM DI83接收到訊號➔AM輸出DO66➔閥A開啟



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粉末系統操作原則(1/3)

Engineer Mode

Operator Mode

Function
除氧、吸粉、篩粉、供粉

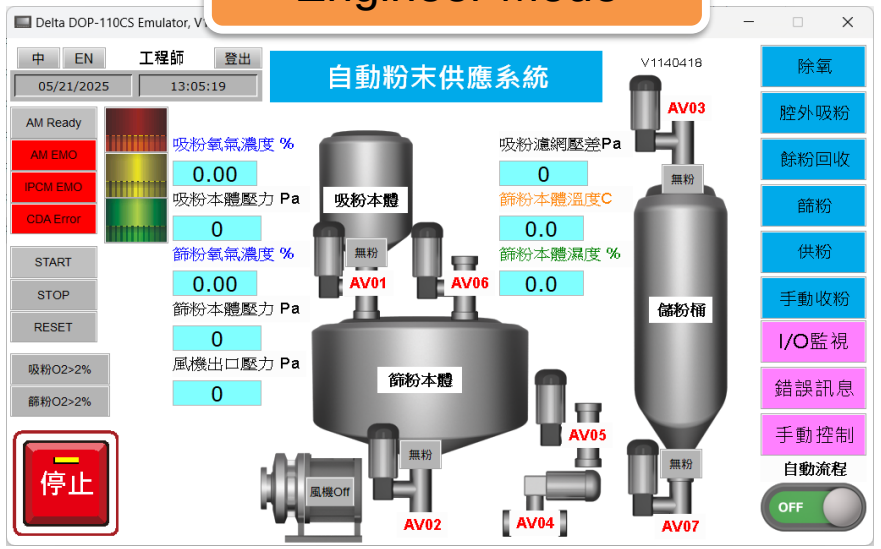
Monitor
吸粉、篩粉氧氣濃度
濾網壓差
篩粉本體溫度
篩粉本體濕度

Monitor
AV01~AV07開關狀態
風機開關狀態
吸粉、篩粉本體粉量狀態
儲粉桶粉量狀態

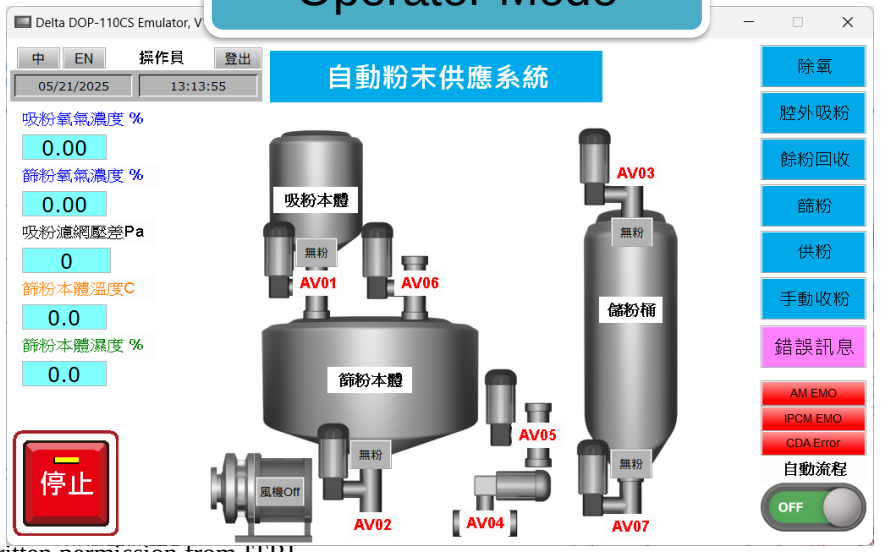
Monitor
吸粉、篩粉本體壓力
風機出口壓力

Control
輸入/輸出監控
電磁閥1~29控制
閥A~E控制
參數調整
操作紀錄
超音波/震動控制
風機控制

Engineer Mode

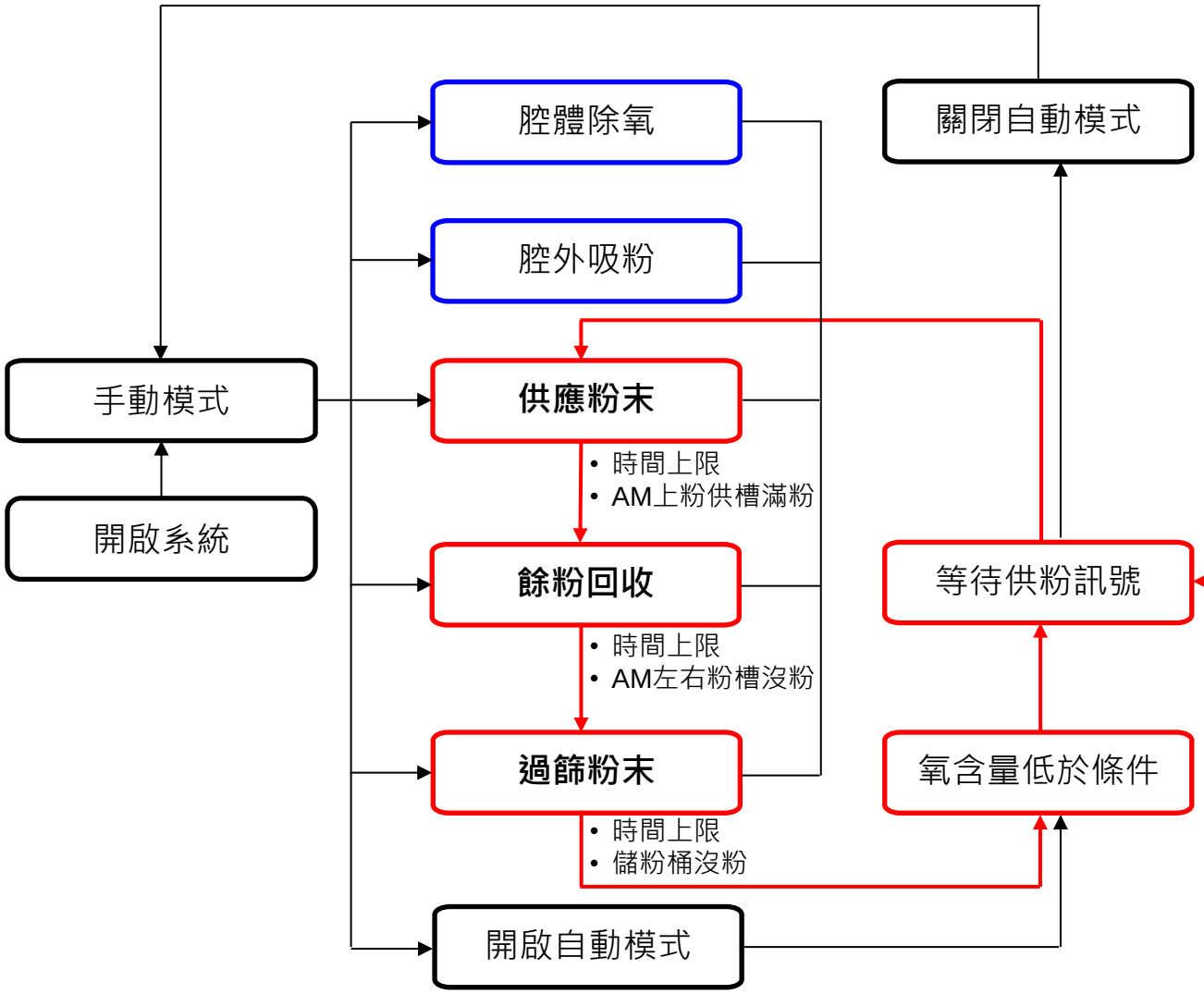


Operator Mode

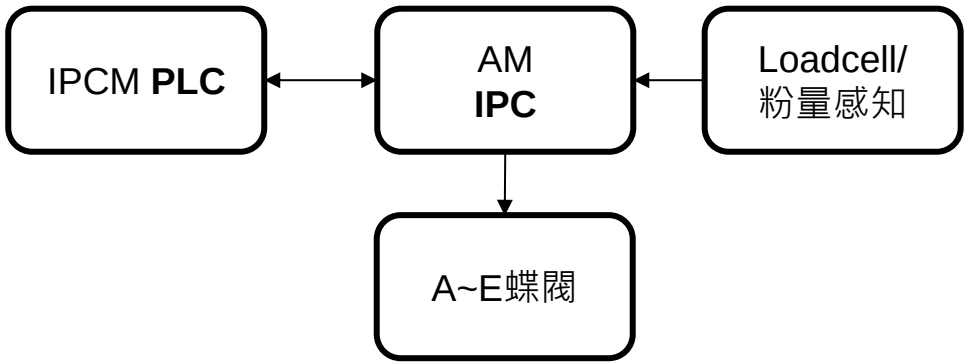


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粉末系統操作原則(2/3)



- 系統預設初始狀態 :AV01~AV07關閉、閥A ~ 閥E關閉。
- 等待供粉訊號每20秒掃描一次，因此AM訊號輸出需至少On 20秒以上。
- IPCM供粉訊號接收腳位X50(24V=ON; PNP)。
- CDA上限0.8MPa、下限0.45MPa。
- 含氧量條件可在工程師模式下設定閥值。
- 含氧量條件必須是**吸粉**、**篩粉本體**、**儲粉桶**都滿足。



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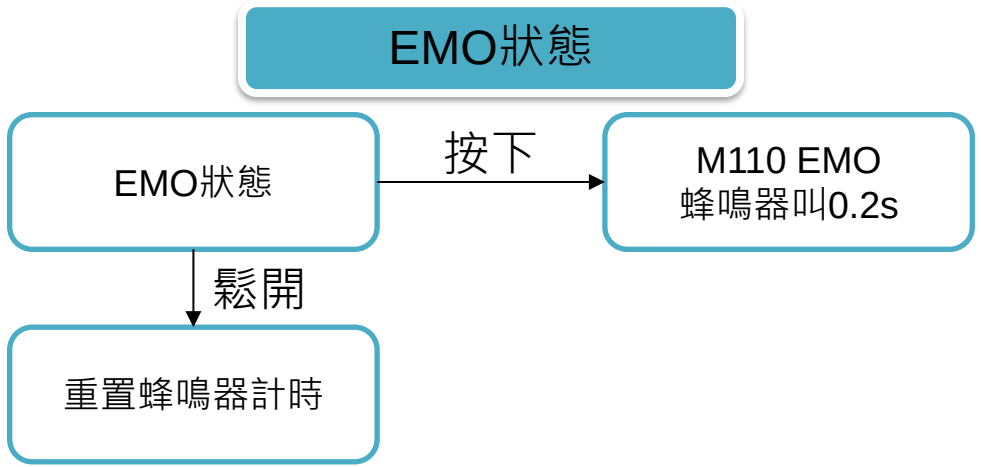
粉末系統操作原則(3/3)

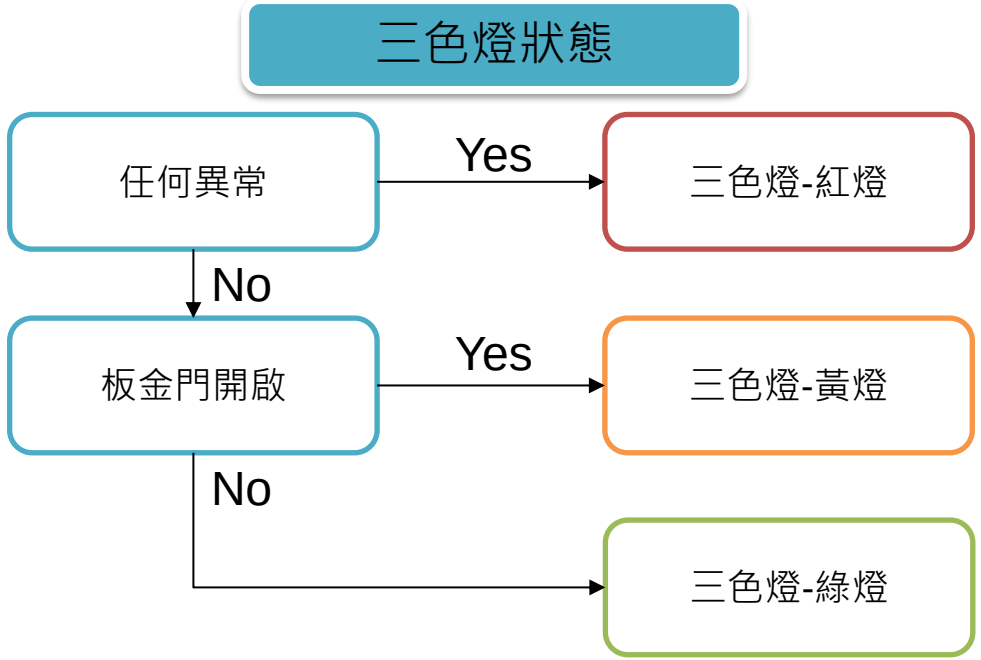
綠燈:
- 正常運行中、正常可操作

黃燈:
- 任意外罩門開啟

紅燈:
- M101:蝶閥未初始關閉
- M102:CDA氣壓不足
- M103:無已篩粉可供給
- M104:無未篩粉可篩
- M105:AV01動作異常
- M106:AV02動作異常
- M107:AV03或AV04動作異常
- M108:AV05或AV06動作異常
- M109:AV07動作異常
- M110:IPCM EMO
- 變頻器電磁閥未開啟

蜂鳴器:
- EMO按下時響0.2s

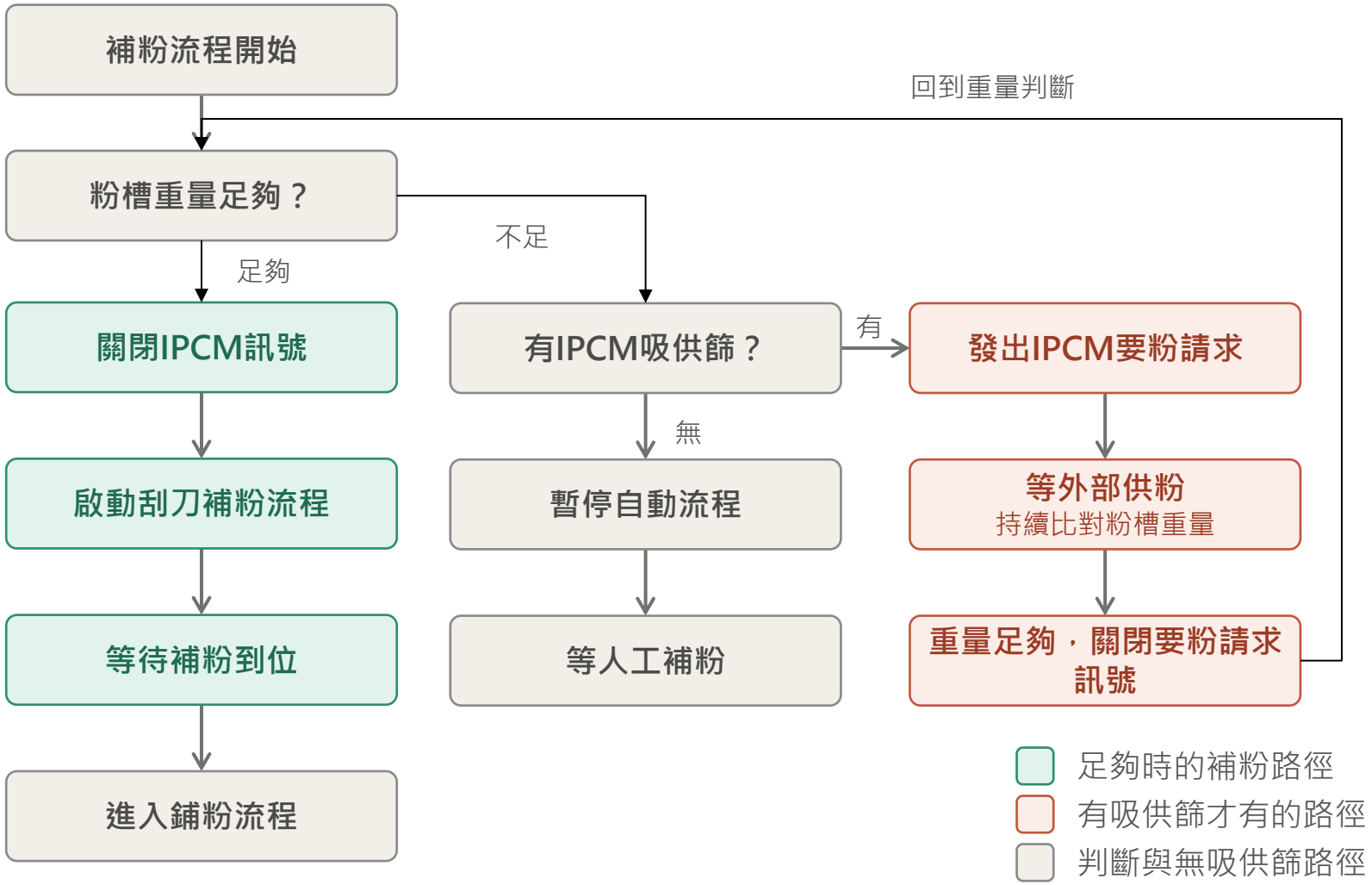




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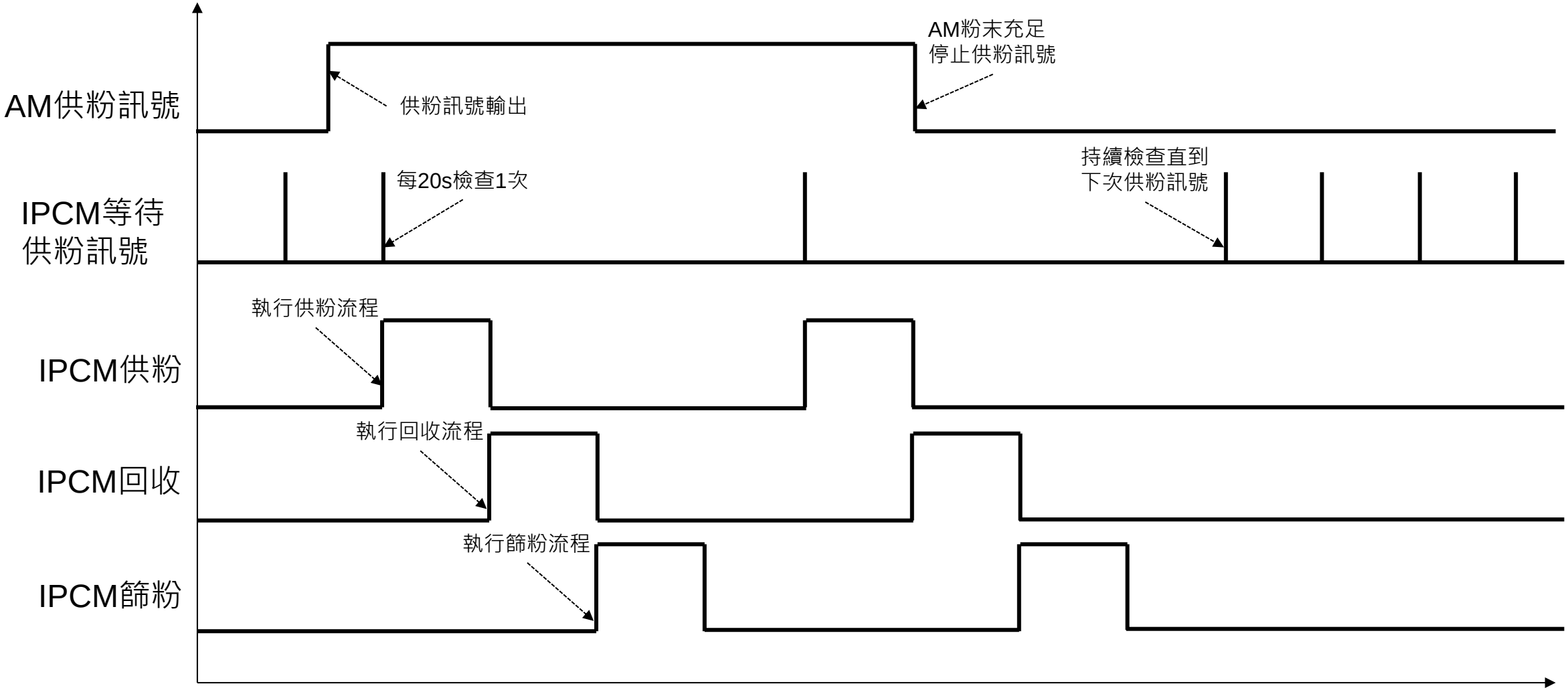
AM&IPCM交握流程(AM軟體)

粉量足夠條件：
Loadcell_1 淨重 ≥ 補粉閾值，
且 Loadcell_2 淨重 ≥ 補粉閾值



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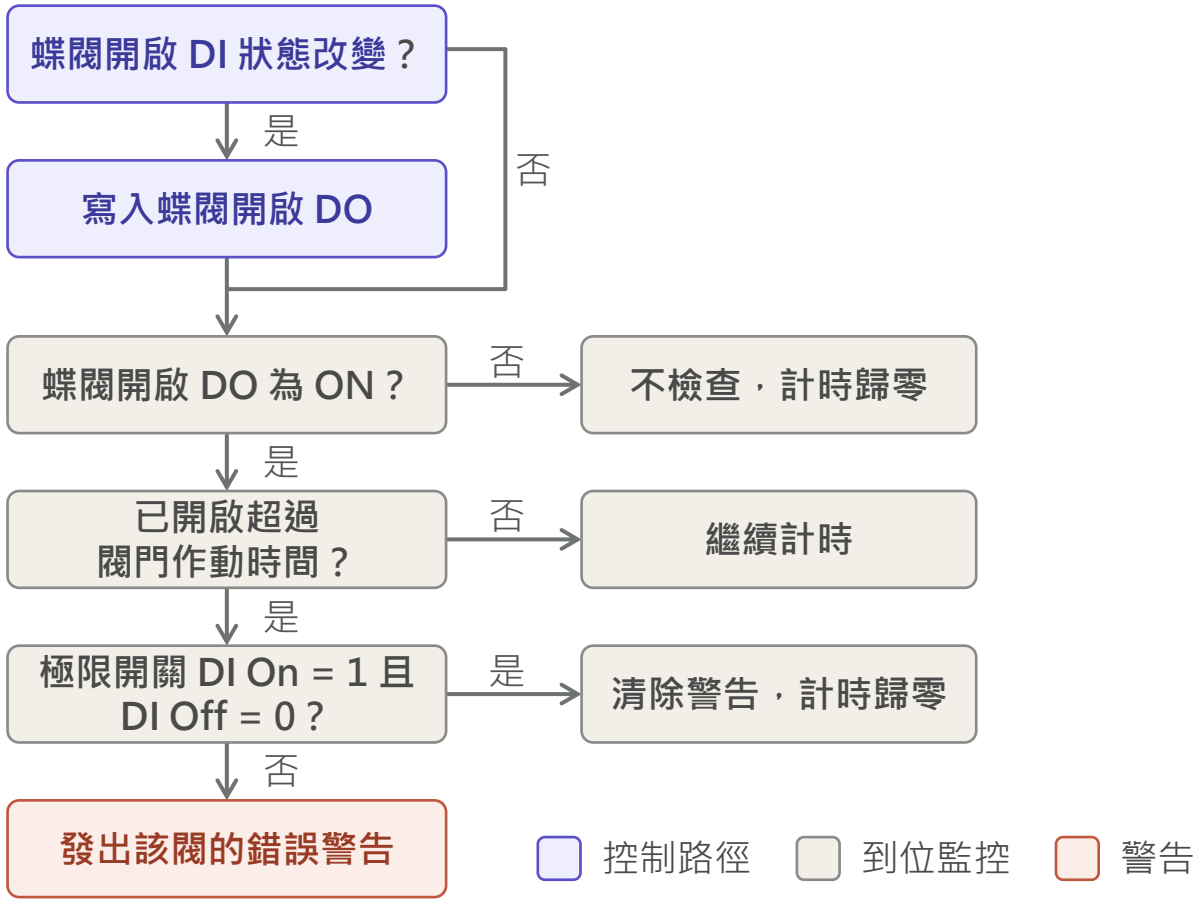
自動流程動作順序示意(IPCM)



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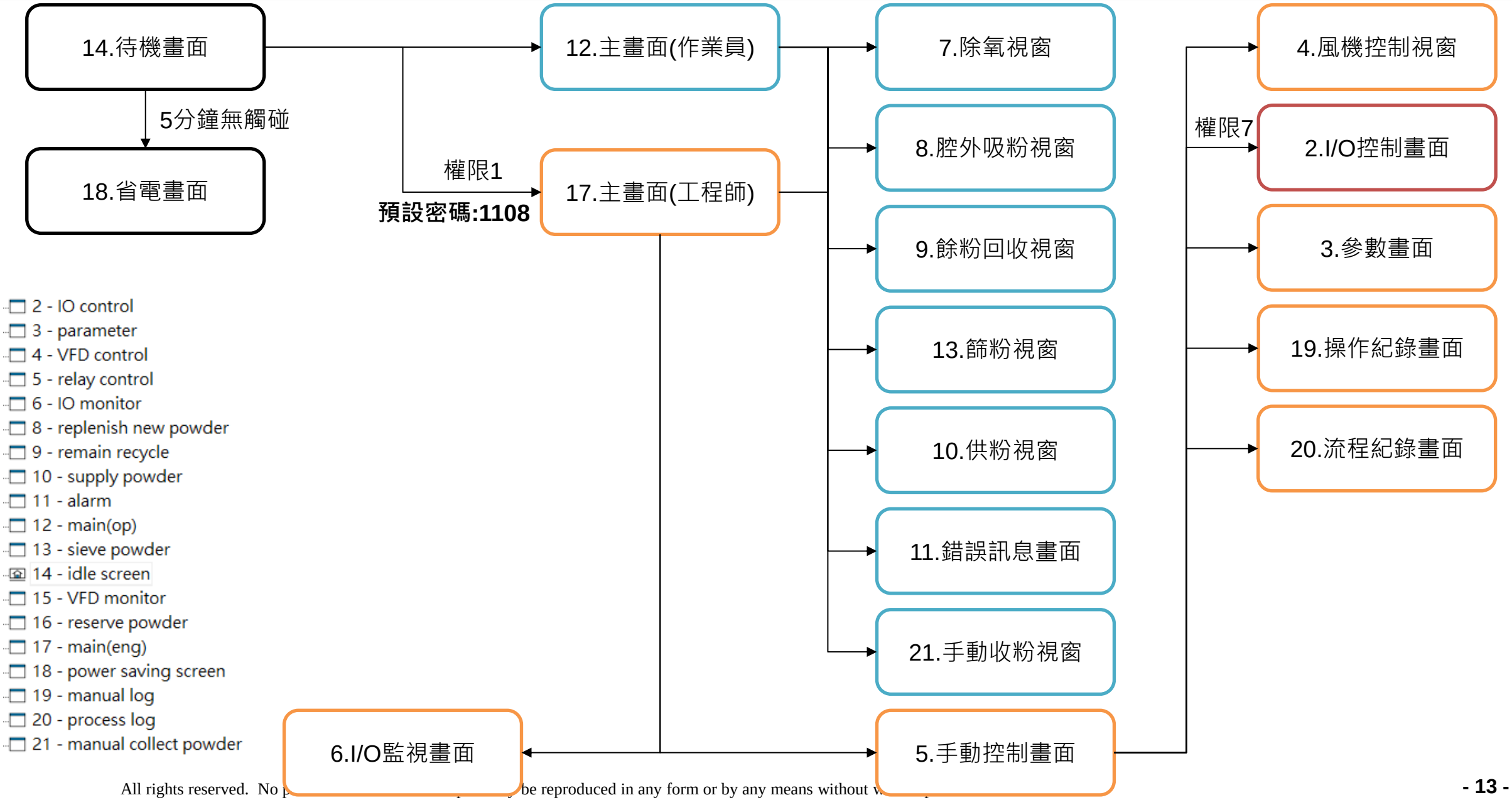
AM餘粉回收流程(AM軟體)

※背景持續檢查



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粉末系統操作介面



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