



Airstream® G4

Class II Type A2 生物安全櫃

*The Leading Energy-efficient, Quiet,
and Ergonomic Biosafety Cabinet in the World*



AIRSTREAM® G4 (AC2-NS G4) CLASS II TYPE A2 BIOSAFETY



USB 孔

- 輸出紀錄資料
- 軟體更新
- 與BMS間的有線傳輸



零電壓繼電器

- Free繼電器觸點
- Exhaust Free繼電器觸點



氣流感測器

- 提供即時的氣流監控以保安全
- 當風速不足時會以警報提醒使用者



Centurion 觸控操作介面

- 在螢幕上以直觀的3D圖示顯示所有安全資訊
- 7" 觸控螢幕選單畫面與智慧型手機類似易於操作
- 手套友善的按鈕設計，讓使用者可在戴手套狀況下操作
- 提供指引讓使用者可處理特定狀況
- 位於中心且下傾的螢幕便於操作與檢視



一體成形單片式內壁

- 負壓的雙層側壁
- 位於側壁的氣體考克與電源插座更容易連接
- 角落使用大圓角方便清潔

獨特的側壁設計

- 角落使用大圓角方便清潔
- 玻璃混合側壁 (E系列)
- 不鏽鋼側壁 (S系列)
- 無孔玻璃保障使用安全性



可移除式的捕紙器(Paper Catch)

- 簡單清理
- 可選符合之前置濾網



上提式的人體工學扶手

- 助於避免格柵空氣流動遭到阻擋
- 舒適的操作姿勢



盤式工作台

- 具溢出物容納空間，方便清潔溢出物
- 角度邊緣設計方便清潔
- V型格柵以避免氣流被阻擋
- 具有工作台支架以清潔排水盤



Airstream® NS G4

Class II Type A2 • Biological Safety Cabinets

ESCO



NSF/ANSI 49 UL 61010

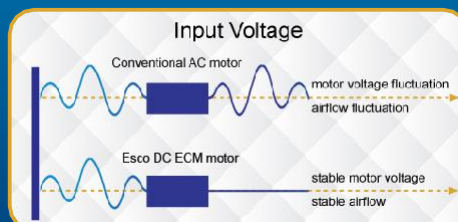
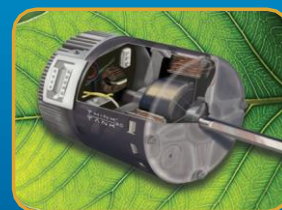
CABINET, FEATURING ADVANCED TOUCHSCREEN CONTROLLER



Esco Airstream® NS G4 Class II Type A2 Biosafety Cabinet Available in 3 feet, 4 feet, 5 feet, and 6 feet models.

高能源效率 DC ECM 風機

- 搭載生物安全櫃中的高效馬達，相比使用傳統的交流馬達，使用DC ECM馬達可節省多達70%的能源消耗
- 在電壓波動或濾網負載的狀況下仍能提供穩定的氣流
- 在待機模式下可再節省60%的能源消耗

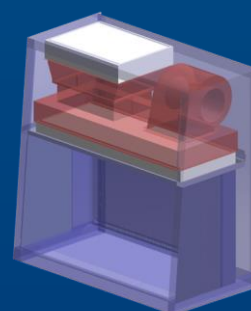


ULPA 濾網

- 與傳統的HEPA濾網相比，過濾效率高出10倍
- 可創造ISO Class 3潔淨區
- 與傳統 HEPA濾網相同的花費與10年壽命

Dynamic Chamber™

- 風機氣室與側壁均受到負壓包裹
- 可以防止汙染源跑出艙室，避免汙染
- 具有ISOCIDE™ 塗層的鋼製氣室相比於傳統的彈性袋式氣室更能避免汙染物外洩



Positive pressure
Negative pressure

使用者可調節式通道

- 3" 開口有著 1/4" 開口的橡膠塞
- 經NSF認證，受負壓包裹
- 允許在玻璃窗關閉下將電線與管線移出



人體工學設計玻璃窗

- 玻璃窗前傾10°以優化使用者舒適度
- 減少眩光並最大程度擴展工作區域的觸及範圍

ISOCIDE™ Powder Coat

- 含有奈米銀離子的粉末鋼板
- 抑制微生物生長增加使用者安全
- 避免艙體成為生物危害的溫床



遵循標準與認證

生物安全櫃性能	空氣品質	過濾系統	電氣安規
NSF / ANSI 49	ISO 14644.1, Class 3, Worldwide, US Fed Std 209E, Class 1 USA JIS B9920, Class 3, Japan BS 5295, Class 3, UK	EN-1822 (H14), Europe IEST-RP-CC001, USA	UL 61010-1 3rd Ed, USA CSA22.2, No.1010-192, Canada IEC61010-1, Worldwide

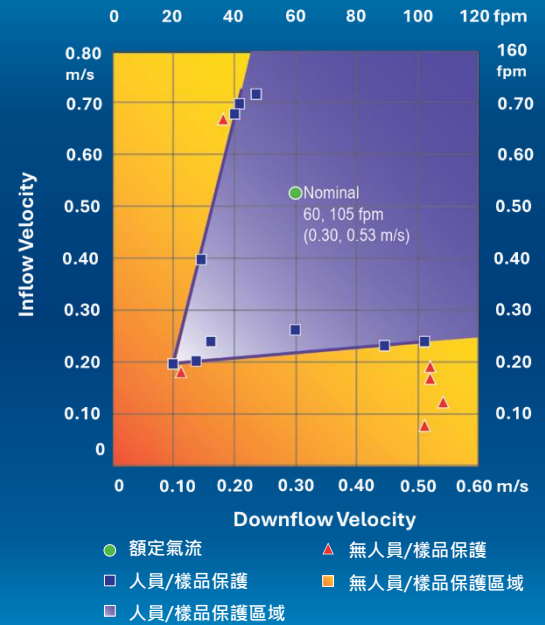
生物安全櫃過濾系統

- 環境空氣會由前格柵避免操作區表面與樣品的污染，吹入氣流未進入工作區。吹入氣流會有一半加入下吹氣流以產生前氣簾來最好的隔絕生物安全櫃內部與外部，混合的氣流透過後進氣格柵進入風機
- 大約1/3共同氣室的空氣會在經ULPA濾網過濾後牌坊出去，而剩下2/3空氣會通過下吹ULPA濾網大約成為乾淨空氣進入操作區的垂直層流以創造ISO Class 3乾淨區，定向無擾流的氣流可避免操作區內/外的互相污染
- 在操作區表面，下吹氣流會進入分散至前/後格柵。少部分會進入側風抓取區以避免氣流死角
- 所有共同氣室的空氣都會經過HEPA過濾後透過專用管道系統排放至外在環境
- 生物安全櫃過濾系統的設計是為了最好的氣室隔絕所調整，ESCO的設計即便在吹入與下吹氣流的不斷變動下，仍可完全提供操作者與樣品的保護

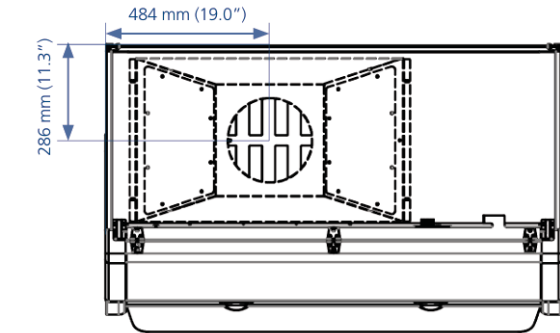
動態風牆，吹入與下吹氣流
側風抓取區

- ULPA過濾後空氣
- 未過濾/潛在受污染空氣
- 環境空氣

The Performance Envelope Concept

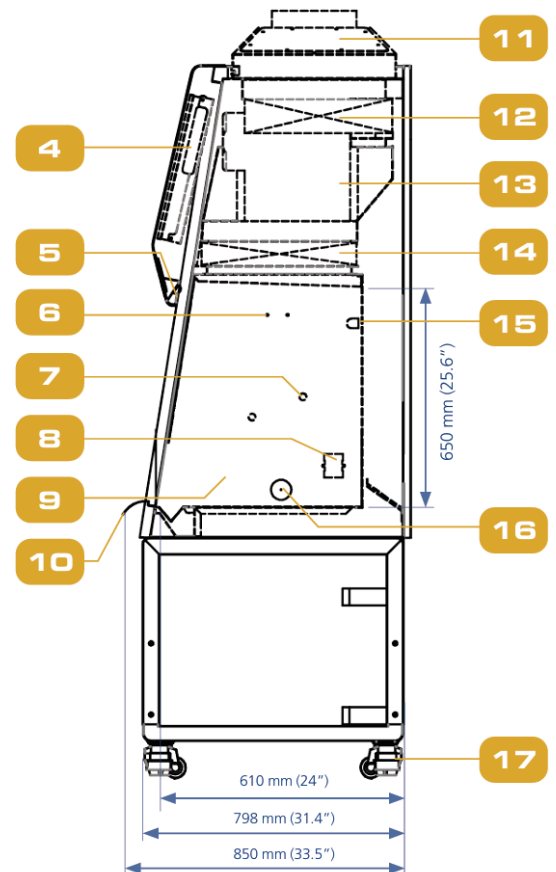
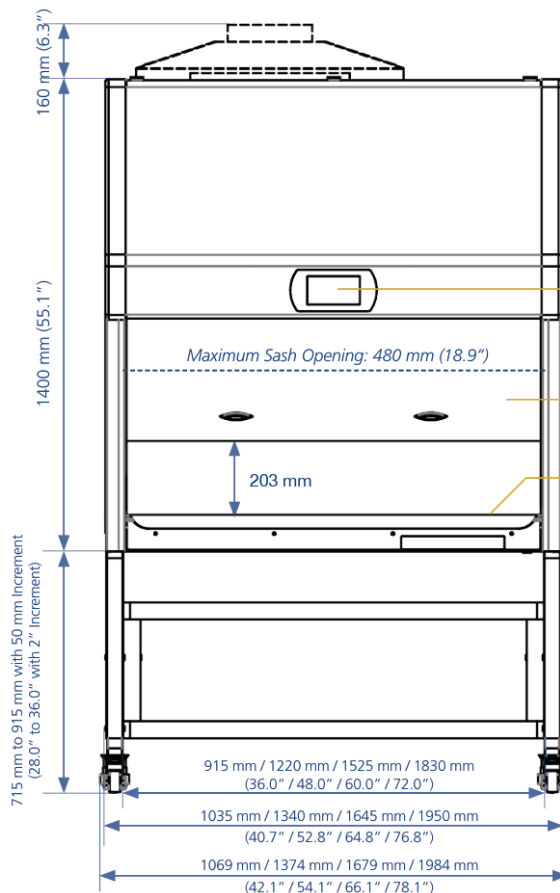


工程視圖



- Esco 7" Touchscreen Control System
- Tempered Glass - Sliding Sash Window
- Stainless Steel Dished Work Tray
- Electrical/Electronic Panel
- Dimmable LED lamp
- Provision for IV Bar (Optional)
- Service Fixture Retrofit Kit Provision
- Electrical Outlet (Max. 5 Amp Total)
- Stainless Steel Side Wall

- Stainless Steel Curved Armrest
- Exhaust Collar (Optional)
- Exhaust ULPA (H14) Filter
- ECM Blower
- Downflow ULPA (H14) Filter
- UV Lamp
- Cable Port (NSF Approved)
- Caster wheel - Leveling Feet Combo



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技術規格							
S-Series 不鏽鋼側壁	110-130 VAC, 50/60 Hz		AC2-2S9-NS G4 8" 2011757	AC2-3S9-NS G4 8" 2011429	AC2-4S9-NS G4 8" 2011403	AC2-5S9-NS G4 8" 2011431	AC2-6S9-NS G4 8" 2011433
				AC2-3S9-NS G4 10" 2011926	AC2-4S9-NS G4 10" 2011927	AC2-5S9-NS G4 10" 2011928	AC2-6S9-NS G4 10" 2011929
	220-240 VAC, 50/60 Hz		AC2-2S8-NS G4 8" 2011756	AC2-3S8-NS G4 8" 2011428	AC2-4S8-NS G4 8" 2011404	AC2-5S8-NS G4 8" 2011432	AC2-6S8-NS G4 8" 2011432
				AC2-3S8-NS G4 10" 2011604	AC2-4S8-NS G4 10" 2011605	AC2-5S8-NS G4 10" 2011606	AC2-6S8-NS G4 10" 2011607
E-Series 強化玻璃側壁	110-130 VAC, 50/60 Hz		AC2-2E9-NS G4 8" 2011755	AC2-3E9-NS G4 8" 2011421	AC2-4E9-NS G4 8" 2011423	AC2-5E9-NS G4 8" 2011425	AC2-6E9-NS G4 8" 2011427
				AC2-3E9-NS G4 10" 2011921	AC2-4E9-NS G4 10" 2011922	AC2-5E9-NS G4 10" 2011923	AC2-6E9-NS G4 10" 2011924
	220-240 VAC, 50/60 Hz		AC2-2E8-NS G4 8" 2011754	AC2-3E8-NS G4 8" 2011420	AC2-4E8-NS G4 8" 2011422	AC2-5E8-NS G4 8" 2011424	AC2-6E8-NS G4 8" 2011426
				AC2-3E8-NS G4 10" 2011592	AC2-4E8-NS G4 10" 2011600	AC2-5E8-NS G4 10" 2011601	AC2-6E8-NS G4 10" 2011602
標稱尺寸			0.6 meter (2")	0.9 meter (3')	1.2 meter (4')	1.5 meter (5')	1.8 meter (6')
外部尺寸(帶扶手)(W x D x H)			730 x 850 x 1400 mm (28.7" x 33.5" x 55.1")	1035 x 850 x 1400 mm (40.7" x 33.5" x 55.1")	1340 x 850 x 1400 mm (52.8" x 33.5" x 55.1")	1645 x 850 x 1400 mm (64.8" x 33.5" x 55.1")	1950 x 850 x 1400 mm (76.8" x 33.5" x 55.1")
內部尺寸 (W x D x H)			610 x 610 x 650 mm (24.0" x 24.0" x 25.6")	915 x 610 x 650 mm (36.0" x 24.0" x 25.6")	1220 x 610 x 650 mm (48.0" x 24.0" x 25.6")	1525 x 610 x 650 mm (60.0" x 24.0" x 25.6")	1830 x 610 x 650 mm (72.0" x 24.0" x 25.6")
可用工作區			0.3 m2 (3.2 ft2)	0.45 m2 (4.9 ft2)	0.6 m2 (6.5 ft2)	0.75 m2 (8.2 ft2)	0.9 m2 (9.8 ft2)
玻璃窗開口			203 mm (8"), 254 mm (10")				
最大玻璃窗開口			490 mm (19.3")				
平均吹入氣流流速			0.53 m/s (105 fpm)				
平均下吹氣流流速			0.30 m/s (60 fpm)				
氣流容積	吹入/ 無風管排放氣流	8"	232 cmh (140 cfm)	356 cmh (210 cfm)	473 cmh (280 cfm)	593 cmh (350 cfm)	709 cmh (417 cfm)
		10"		446 cmh (263 cfm)	594 cmh (350 cfm)	744 cmh (438 cfm)	891 cmh (525 cfm)
	下吹氣流	8"	369 cmh (224 cfm)	566 cmh (333 cfm)	751 cmh (442 cfm)	942 cmh (554 cfm)	1127 cmh (663 cfm)
		10"		566 cmh (333 cfm)	762 cmh (449 cfm)	953 cmh (561 cfm)	1143 cmh (673 cfm)
	Required Exhaust with Optional Thimble Exhaust Collar	8"	403 cmh (244 cfm)	600 cmh (353 cfm)	526 cmh (312 cfm)	627 cmh (370 cfm)	780 cmh (459 cfm)
		10"		614 cmh (362 cfm)	647 cmh (382 cfm)	786 cmh (463 cfm)	948 cmh (559 cfm)
	Static Pressure For Optional Thimble Exhaust Collar Measured 360mm (14 inches) from the top of exhaust collar	8"	15-25Pa	15-25Pa	25-35Pa	25-35Pa	45-55Pa
		10"		20-30Pa	30-40Pa	35-45Pa	50-60Pa
ULPA Filter 標準效率			>99.999% at 0.1 to 0.3 micron, ULPA as per IEST-RP-CC001.3 USA >99.999% at MPPS, H14 as per EN 1822 EU				
NSF / ANSI 49 標準下 · 噪音排放 (dBA)*	8"	60.0 dBA	55.8 dBA	59.5 dBA	59.8 dBA	62.8 dBA	
	10"		58.1 dBA	60.0 dBA	60.6 dBA	63.8 dBA	
ULPA Filter 標準效率			>99.999% at 0.1 to 0.3 micron, ULPA as per IEST-RP-CC001.3 USA >99.999% at MPPS, H14 as per EN 1822 EU				
亮度			108 ft candles (1162.5 lux)	117 ft candles (1260 lux)	122 ft candles (1313 lux)	113 ft candles (1216 lux)	114 ft candles (1227 lux)
安全櫃結構	主體		1.2 mm (0.05") / 18 gauge 具 Isocide™ 粉末塗層烤漆鍍鉻鋼板				
	操作區		1.5 mm (0.06") / 16 gauge, 304不鏽鋼, 4B表面處理				
	側壁		S-Series: 1.5 mm (0.06") / 16 gauge, 304不鏽鋼, 4B表面處理 E-Series: 5 mm (0.2"), 無色透明具紫外線吸收能力強化玻璃				
電氣需求 110-130 VAC, 50/60 Hz**	額定功耗 (W)	8"	145	132	197	258	345
		10"		148	184	271	350
	熱負荷 (BTU / Hr)	8"	495	450	672	880	1177
		10"		505	628	925	1194
	最大負載電流 (FLA)	8"	15	15	15	15	15
		10"		15	15	15	15
	待機 (Watt)	8"	0.25	34	33	40	49
		10"		31	25	36	34
	待機 (Ampere)	8"	25	0.54	0.50	0.57	0.75
		10"		0.48	0.39	0.63	0.52
電氣需求 220-240 VAC, 50/60 Hz**	額定功耗 (W)	8"	140	162	192	274	378
		10"		154	197	290	380
	熱負荷 (BTU / Hr)	8"	478	509	603	861	1187
		10"		484	619	911	1194
	最大負載電流 (FLA)	8"	10	10	10	10	10
		10"		10	10	10	10
	待機 (Watt)	8"	25	34	33	40	49
		10"		32	25	36	34
	待機 (Ampere)	8"	0.25	0.31	0.31	0.61	0.42
		10"		0.30	0.26	0.59	0.32
淨重			157 Kg (346 lbs)	203 Kg (448 lbs)	245 Kg (540 lbs)	303 Kg (668 lbs)	361 Kg (796 lbs)
運送重量			210 Kg (463 lbs)	231 Kg (509 lbs)	300 Kg (661 lbs)	369 Kg (814 lbs)	443 Kg (977 lbs)
運送尺寸, 最大值 (W x D x H)			850 x 850 x 1950 mm (33.5" x 33.5" x 76.8")	1200 x 850 x 1950 mm (47.2" x 33.5" x 76.8")	1450 x 850 x 1950 mm (57.1" x 33.5" x 76.8")	1720 x 850 x 1950 mm (67.7" x 33.5" x 76.8")	2050 x 850 x 1950 mm (80.7" x 33.5" x 76.8")
運送尺寸(體積)			1.4 m³ (49.4 f)	2.0 m³ (70.64 f)	2.5 m³ (88.2 f)	3.0 m³ (105.9 f)	3.6 m³ (127.1 f)

Specifications are subject to change without notice.

*Noise reading in open field condition / anechoic chamber.

Noise reading in normal room varies by room size, layout, and background noise, but may reach roughly 3-4 dBA above these values.

**Electrical power consumption is a measurement of new unit within nominal set point. Result may vary due to several independent variables.

選配與配件					
機型	AC2-2S8-NS G4 8"	AC2-3S8-NS G4 8"	AC2-4S8-NS G4 8"	AC2-5S8-NS G4 8"	AC2-6S8-NS G4 8"
	AC2-2S8-NS G4 10"	AC2-3S8-NS G4 10"	AC2-4S8-NS G4 10"	AC2-5S8-NS G4 10"	AC2-6S8-NS G4 10"
UV燈	UV-15A-L 5170251		UV-30A-L 5170255		
電源插座 (Direct mounted) max 2	EO-H_				
	EO-GFCI 5170251				
輸液架	IV-605 5170498	IV-910 5170499	IV-1215 5170231	IV-1520 5170500	IV-1825 5170501
支架 w/ Castors wheel and levelling feet (28" and 36")	STA-2A0 5131339	STA-3A0 5131340	STA-4A0 5131341	STA-5A0 5131427	STA-6A0 5131389
考克-EU SF -Gas -20mm	SF-1G20 5170410				
考克-EU SF -Vacuum -20mm	SF-1V20 5170457				
考克- EU SF - Air - 20mm	SF-1A20 5170502				
考克-EU SF -Nitrogen-20mm	SF-1N20 5170503				
考克-EU SF - Water - 20mm	SF-1W20 5170458				
考克-EU SF -Universal -22mm	SF-2U22 5170504				
銅管	COPPER PIPING 5170026				
排氣管套組 Thimble Exhaust Collar	ECO-F1-AC2-2FT G4 5171229	ECO-F1-AC2-3FT G4 5171097	ECO-F1-AC2-4FT G4 5171098	ECO-F1-AC2-5FT G4 5171099	ECO-F1-AC2-6FT G4 5171100
Anti-blowback Valve 10inch	ABBV-10S 5170354				
排氣閥門 Exhaust Damper (B2-Damper)	B2-DAMPER 5170104				
Front Decon cover with VHP IN PORT	FRONT DECON COVER W/ VHP IN PORT AC2-2-G4 5171319	FRONT DECON COVER W/ VHP IN PORT AC2-3-G4 5171321	FRONT DECON COVER W/ VHP IN PORT AC2-4-G4 5171323	FRONT DECON COVER W/ VHP IN PORT AC2-5-G4 5171325	FRONT DECON COVER W/ VHP IN PORT AC2-6-G4 5171327
Top Decon cover with VHP OUT PORT	TOP DECON COVER W/VHP OUT AC2-2-G4 5171320	TOP DECON COVER W/ VHP OUT AC2-3-G4 5171322	TOP DECON COVER W/ VHP OUT AC2-4-G4 5171324	TOP DECON COVER W/ VHP OUT AC2-5-G4 5171326	TOP DECON COVER W/ VHP OUT AC2-6-G4 5171328
TOP BOX With VHP OUT (1 inch diameter)	TOP BOX W/ VHP-OUT AC2-2-NS G4 5171350	TOP BOX W/ VHP-OUT AC2-3-NS G4 5171298	TOP BOX W/ VHP-OUT AC2-4-NS G4 5171299	TOP BOX W/ VHP-OUT AC2-5-NS G4 5171300	TOP BOX W/ VHP-OUT AC2-6-NS G4 5171301
Thimble Exhaust Collar with alarm and VHP-OUT-PORT	ECO-F1-W/ VHP OUT AC2- 2FT G4 5171351	ECO-F1-W/ VHP OUT AC2- 3FT G4 5171352	ECO-F1-W/ VHP OUT AC2- 4FT G4 5171353	ECO-F1-W/ VHP OUT AC2- 5FT G4 5171354	ECO-F1-W/ VHP OUT AC2- 6FT G4 5171355
Pre-Filter, Paper catch (Black Foam only)	PF-40 5090060	PF-41 5090061	PF-42 5090062	PF-43 5090063	PF-41 X 2 5090061
扶手	MEWREST 5170127				
腳踏板	FT-REST 5170073				
IQ/OQ Protocol	Hardcopy 9010179 Softcopy 9010179-A				
FAT	RSR-020				
SAT	RSR-034				

ESCO

LIFESCIENCES GROUP

Improving Lives through Science

ESCO
SCIENTIFIC



- Animal Research Workstation
- Biological Safety Cabinet
- CO₂ Incubator
- Ducted Fume Hood
- Ductless Fume Hood
- Filtered Storage Cabinet
- Laboratory Centrifuge
- Laboratory Oven and Incubator
- Laboratory Refrigerator and Freezer
- Laboratory Shaker
- Laminar Flow Cabinet
- PCR Cabinet
- Powder Weighing Balance Enclosure
- Thermal Cycler
- Ultra-low Temperature Freezer

ESCO
MEDICAL



- Time-Lapse Incubator
- Benchtop Incubator
- ART Workstation
- CO₂ Incubator
- Anti-Vibration Table
- Gas Analyser

ESCO
Healthcare



ESCO
PHARMA

ESCO
TaPestleRx

ESCO
VACCIXCELL

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and Bioprocessing Tools

ESCO
ASTER



CRDMO Services

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