

# XCell® LS Controller Specifications

Data Sheet

	XCell® ATF 4	XCell® ATF 6	XCell® ATF 10
<b>Product Overview</b>			
<b>Models</b>	XCell® LS Controller	XCell® LS Controller XCell® LS Controller Plus	XCell® LS Controller Plus
<b>Part Number</b>	XC-LSC-46-S-P-GMP XC-LSC-46-D-P-GMP	XC-LSC-46-S-P-GMP XC-LSC-46-D-P-GMP XC-LSC-610-S-P-GMP XC-LSC-610-D-P-GMP	XC-LSC-610-S-P-GMP XC-LSC-610-D-P-GMP
<b>Typical Installation</b>	Large-scale Process Development; Clinical and/or Commercial GMP Manufacturing	Large-scale Process Development; Clinical and/or Commercial GMP Manufacturing	Clinical and/or Commercial GMP Manufacturing
<b>Automation Platform</b>	Allen-Bradley L19 Programmable Logic Controller		
<b>Channels</b>	Single or Dual ATF		
<b>User Interface (Optional)</b>	Systec WAVE 221 Industrial PC; IP65 with pre-installed AVEVA™ Wonderware SCADA software version 2017		
<b>Integration Protocols (Headless Configuration)</b>	Available for integration to common commercial automation platforms, including Delta-V, Ethernet I/P, Modbus TCP. Delta-V Landing Module available		
<b>Regulatory Claims</b>	UL/CE/RoHS/REACH/WEEE/21 CFR Part 11 Compliant/ IP65		
<b>Required Accessories (Finished Offerings)</b>	XCell® Safety Air Protection Assembly GMP, XCell® Flow Sensor, XCell® Flow Sensor Cable, XCell® Pressure Cable Kit, XC LSC Plus ATF-to-Controller Tubing, XC LSC Air Vacuum, Utility Connection Kit		
<b>Optional Accessories (Finished Offerings)</b>	Vacuum Pump, Universal Cart		

**DISCLAIMER: All process values are general recommendations. For additional details, please refer to the XCell® LS Controller User Guide or contact your local Repligen representative.**

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<b>Process Parameters</b>			
<b>Bioreactor working volume   Suspension culture</b>	10 - 50 L	50 - 200 L	200 - 1000 L
<b>XCell® ATF pump rate*</b>	Single Mode		
Mode of Operation	Dual Modes (In-Phase, Out-of-Phase and Independent)		
Recommended minimum	5 L/min	10 L/min	20 L/min
Recommended maximum for scale-up	8 L/min	17.2 L/min	80 L/min
<b>Applicable XCell® ATF Device Format Hollow Fiber Pore Sizes</b>	Stainless Steel ATF: 0.2 µm, 0.5 µm, 50 PS	Stainless Steel ATF: 0.2 µm, 0.5 µm, 50 PS Single-use ATF: 0.2 µm	Stainless Steel ATF: 0.2 µm, 0.5 µm, 50 PS Single-use ATF: 0.2 µm
<b>Filtration rate (Perfusion   CFB) Recommended nominal flux</b>	≤ 5.7 LMH 105 L/day, 4.4 L/hr, 0.073 L/min	≤ 5.7 LMH 341 L/day, 14.2 L/hr, 0.24 L/min	≤ 5.7 LMH 1500 L/day, 62.5 L/hr, 1.04 L/min
<b>Utility Requirements (2 XCell® ATF Devices per controller)</b>			
<b>Compressed air</b>			
Source air pressure requirement	50 - 110 psig	50 - 110 psig	50 - 110 psig
Pressure down regulation (factory set by Repligen)	25 psig	25 psig	25 psig
Pressure relief (factory set by Repligen)	30 psig	30 psig	30 psig
Source Air Flow Requirement	176 L/min	176 L/min	176 L/min
<b>Vacuum</b>	-12.5 psig (-0.86 barg)		
Pressure at peak flow	100 L/min	150 L/min	830 L/min
<b>Utility line connections</b>			
Compressed Air	Compressed Air, 10 ft, 3/4 in Tri-clamp, ID = 3/4 in, OD = 1 1/32 in tubing, QC connector		
Vacuum	Vacuum, 10 ft, 3/4 in Tri-clamp, ID = 3/4 in, OD = 1 1/32 in tubing, QC connector		
<b>Electrical</b>			
Power input	External Power Supply, Adapted to 24 VDC (from 110 - 240 VAC, 60/50 Hz)		
XCell® LSC Controller - peak current	1.3 Amps   0.8 Amps		
<b>System environment</b>			
Operating temperature, humidity (non-condensing)	4° - 40° C (39° - 104° F), 15% - 95%, 10% - 50%		

\* Note: The XCell® ATF pump rates above are attainable in certain bioreactor configurations with specific cell culture fluid viscosities. For additional details and support, contact your local Field Application Scientist (FAS).

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<b>Materials of Construction (MOC)</b>			
<b>MOC</b>	304 Stainless steel		
Enclosure	304 Stainless steel		
Tri-clamps	Steel and Aluminum Stainless steel Magnesium and Glass		
Device stand	Polyvinyl chloride, Stainless steel		
XCell® ATF to Controller (A2C) tubing kit	ATF4/6: Polyurethane, Stainless steel ATF10: Polyvinyl chloride, Stainless steel		
<b>Dimensions and Weight</b>			
Controller Unit	H: 16 in (40.6 cm), W: 20 in (50.8 cm), D: 8.8 in (22.4 cm), WT: 49 lbs (22.3 kg)		
<b>Supply Air Protection Assembly (SAPA)</b>			
Height <sup>(1)</sup> , width, depth, weight (approximately)	H: 13.25 in, W: 19.4 in, WT: 19 lbs		
<b>Vacuum pumps Height, Width, Depth, Weight</b>			
XC-LSC-VP46	H: 12.68 in, W: 7.6 in, D: 25.47 in, WT: 70.55 lbs		
XC-LSC-VP610	H: 12.76 in, W: 12.56 in, D: 26.42 in, WT: 165.34 lbs		

(1) Varies with use of standard or extending arms.

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