

TJX Bioengineering CloudReady Bioreactor Specifications					
Parameter		Microbial fermentation		Cell culture	
Required space (L*W*H)	Controller+Vessel	1250*790*1520mm(4 units)		1250*790*1520mm(4 units)	
Vessel dimensions	Vessel	500ml	1500ml	500ml	1500ml
	Diameter (mm)	70	94	70	94
	Height (mm)	130	228	130	228
	Total volume (mL)	490	1580	490	1580
	Working volume (mL)	100-350	300-1100	100-350	300-1100
Sterilization parameter/	Max O.D	120mm	148mm	120mm	148mm
	Max H	300mm	390mm	290mm	390mm
Power supply	Power Requirement	220VAC,50/60HZ,10A		220VAC,50/60HZ,10A	
	Equipment power	2kW	2.5kW	2kW	2.5kW
	Fuses	25A	25A	25A	25A
Gas inlet	Gas pressure	2 bar (0.02 MPa) ±10%; dry, oil and dust-free		2 bar (0.02 MPa) ±10%; dry, oil and dust-free	
	Gas inlet tube	Outer diameter 6mm, reinforced tubing		Outer diameter 6	
Sparger	Macrosparger	8holes-Φ0.8mm	9holes-Φ1mm	8holes-Φ0.8mm	9holes-Φ1mm
Impellers	Type	Rushton turbine*2 + Pitched*1	Rushton turbine*2 + Pitched*1+AF Impeller*1	Marine	
	AF Impellerdiameter (mm)				
	Impeller diameter (mm)	28	37.5	28	37.5
Agitation	Motor power (W)	50W	100W	50W	100W
	Range (rpm)	20~1500	20~1500	5~800	5~800
	Tip Speed(m/s)	(0.03~2.19)	(0.04~2.94)	(0.03~2.19)	(0.04~2.94)
Temperature	Control	Peltier		Peltier	
	Heating power (W)	160W	170W	160W	170W
	Cooling power (W)	55W	59W	55W	59W
	Range (°C)	4°C - 80 °C	4°C - 80 °C	4°C - 80 °C	4 °C - 80 °C
	Accuracy (°C)	±0.1		±0.1	
	Steady state Error (°C)	±0.1		±0.1	
pH	Type	Electro-chemical (gel-filled)		Electro-chemical (gel-filled)	
	Range	0~12		0~12	
	Accuracy	±0.02		±0.02	
	Steady state Error	±0.02		±0.02	
DO	Type	Polarographic or Optical		Polarographic or Optical	
	Range	0~150% (Air saturation)		0~150% (Air saturation)	
	Accuracy	±2%		±2%	
MFC (Submerged)	Air	1000sccm	2000sccm	50sccm	100 sccm
	O2	300sccm(Optional)	1000sccm(Optional)	100 sccm	300 sccm
	CO2	N/A	N/A	50 sccm	50 sccm
	N2	N/A	N/A	50 sccm (Optional)	50 sccm (Optional)
Pump	Type	Peristaltic pump head, precision stepper motor		Peristaltic pump head, precision stepper motor	
	Number	4, up to 6		4, up to 6	
	Speeds	0 - 200rpm			
	Flow rate	0.0025ml/min - 17.5ml/min			
	Pump pipe diameter	400A: φ2mm*1mm(*)()			