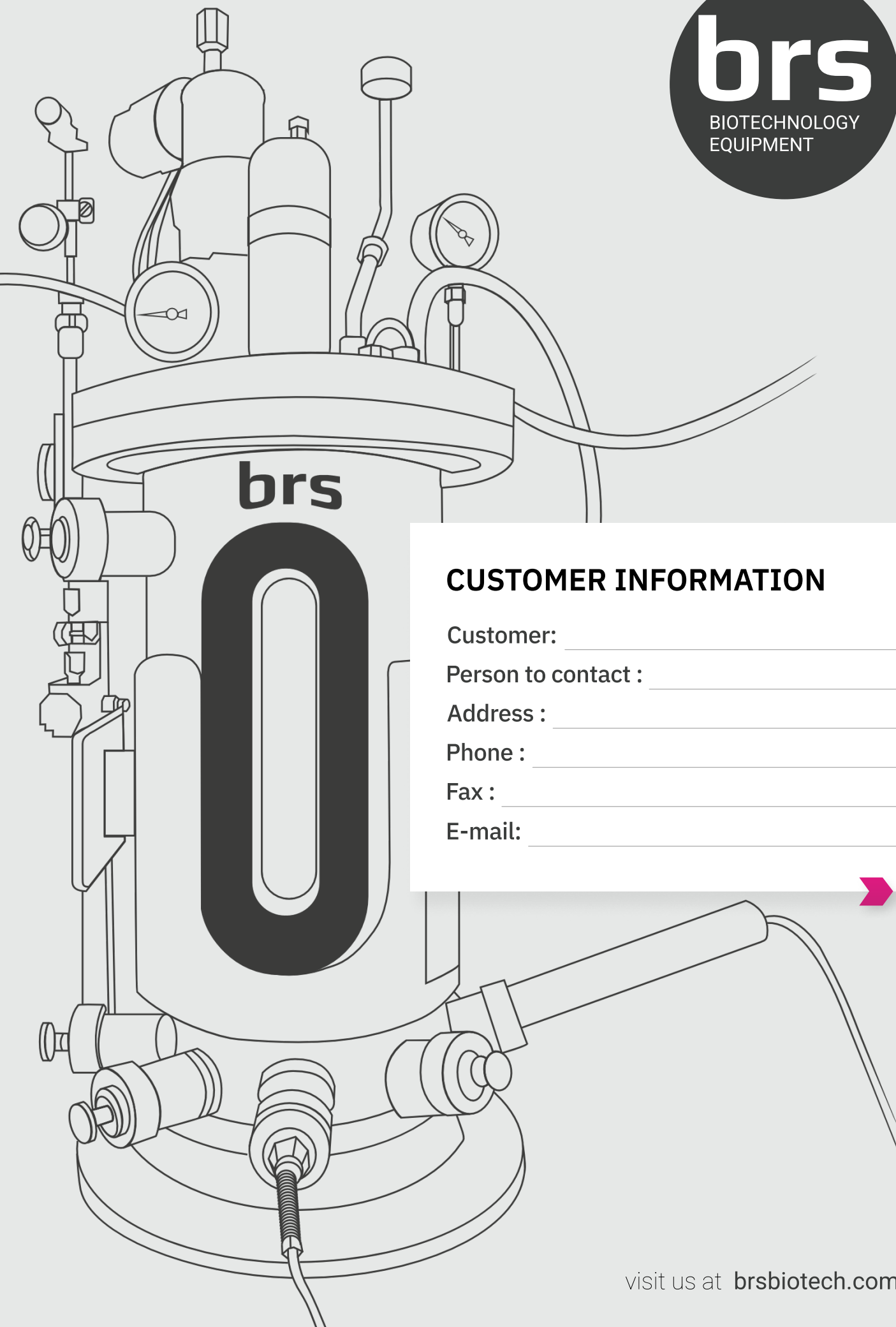




CUSTOMER INFORMATION

Customer: _____

Person to contact : _____

Address : _____

Phone : _____

Fax : _____

E-mail: _____



CULTURE VESSEL

VESSEL VOLUME

Total volume, please specify _____ L

HEIGHT : DIAMETER RATIO

Standard microbial 3:1 ☐

Cell culture 2:1 ☐

Other, please specify _____ ☐

DESIGN CONDITIONS

Maximum working pressure, please specify _____ bar ☐

Maximum working temperature, please specify _____ °C ☐

STIRRER SYSTEM

Bottom drive ☐

Top drive ☐

IMPELLER TYPE

Rushton turbines set ☐

Marine type impellers set ☐

Other, please specify _____ ☐

STIRRER SPEED (please specify) _____

SEALING SYSTEM

Single mechanical seal ☐

Double mechanical seal with steam sterilization ☐

Magnetic coupling ☐

PRESSURE RELIEF DEVICE

Pressure relief valve, adjustable ☐

Single use rupture disk ☐

CIP SPRAY BALL, PREPARATION FOR CIP CONNECTION ☐

AERATION SYSTEM

GAS INLET

Deep ventilation (barboter) ☐

Overlay ventilation, over the liquid ☐

BARBOTER TYPE

Ring type bubbler, perforation 1 mm ☐

L - type micro bubbler, mesh 100 microns ☐

GAS SUPPLY

☐ Air

Manual rotameter for Air ☐

Automatic flowmeter for Air ☐

☐ O₂

Manual rotameter for O₂ ☐

Automatic flowmeter for O₂ ☐

☐ N₂

Manual rotameter for N₂ ☐

Automatic flowmeter for N₂ ☐

☐ CO₂

Manual rotameter for CO₂ ☐

Automatic flowmeter for CO₂ ☐

☐ Control pH by CO₂ – additional valve for control

GAS OUTLET

Exhaust gas condenser ☐

Exhaust gas filter heater ☐

TEMPERATURE CONTROL

COOLING

Tap water only, no collection ☐

Circulating water, chiller ☐

ADDITION VESSELS FOR FEEDING

Acid, please specify volume		☐
Alkali, please specify volume		☐
Antifoam, please specify volume		☐
Feed, please specify volume		☐

TYPE OF VESSELS

Glass bottles, sterilizable in autoclave	☐
Stainless steel vessels, sterilizable in situ	☐

MODE OF FEEDING /DOSING

Peristaltic pumps, pulsed	☐
Overpressure, via pulsed valve	☐

MEASUREMENT AND CONTROL SYSTEM

PARAMETERS MEASURED AND CONTROLLED

Please mark only measurement (M) or control (C)	(M)	(C)
Temperature	☐	☐
Stirrer speed		☐
pH	☐	☐
PO ₂	☐	☐
Foam		☐
Pressure	☐	☐
Vessel weight (level control)	☐	☐
Differential pressure sensors (level control)	☐	☐
Redox	☐	
Optical density	☐	
Exhaust gas composition - O ₂ %	☐	
Exhaust gas composition - CO ₂ %	☐	
Exhaust gas composition – CH ₄ %	☐	

PERIPHERAL COMPONENTS

MEDIA PREPARATION TANK ☐

Total volume, please specify _____

Sterile operation ☐

Transfer

Pump ☐

Overpressure ☐

ADDITIONAL TANKS ☐

Total volume, please specify _____

Sterile operation ☐

Transfer

Pump ☐

Overpressure ☐

HARVEST TANKS (please specify n°) ☐

Total volume, please specify _____ ☐

Sterile operation ☐

Transfer

Pump ☐

Overpressure ☐

CONDITIONS AT CUSTOMER'S SITE

UTILITIES AVAILABLE (please specify temperature / pressure / capacity)

Clean compressed air _____ bar, _____ L/min

Tap water _____ °C, _____ L/min

Colling water _____ °C, _____ L/min

Clean steam _____ bar, _____ kg/h

ELECTRICITY (please specify voltage, current, phases) ☐

SPACE AVAILABLE AND RESTRICTIONS

Room height, please specify _____

Floor area, please specify _____

The narrowest door to get through, please specify _____

Other restrictions, please specify _____

COMMENTS, EXTRA TECHNICAL REQUIREMENTS

Fermentors& Bioreactors/Downstream Processing Equipment

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