

TECHNICAL SPECIFIKATION COST CALCULATION

Object: Project LARS for mysel /Mycorena may2020 Figures in SEK excl moms

Technikal specification in separate document

| Nr | Object | Data | Not | Calc. price |
|-------|-------------------|----------------------------|--------------------|-------------|
| A01 | Lab fermentors | 10L | glass | 0 |
| A02 | Bioreactor | 100L | 8kW | 450000 |
| B01 | Bioreactor | Working volume 1000 L | -1/+2bar 1:2 (D:H) | 650000 |
| B02 | Stirrer | 2 megaprop. | 3kW | 95000 |
| B03 | Filter system | Inlet filter | sparger | 90000 |
| B04 | Thermo system | Cultivation 25-50C steril. | Incl. sensors | 200000 |
| B05 | Control system | SCADA incl. IQ-OQ-PQ | See C05 | 0 |
| B06 | pH control system | | Incl. sensors | 100000 |
| B07 | DO control system | | Incl. sensors | 90000 |
| B08 | Foam control | | Incl. sensors | 30000 |
| B09 | Gas analyse | O2-CO2 | Incl. sensors | 40000 |
| B10 | Level control | | Incl. sensors | 60000 |
| B11-1 | Installation | Electric | | 70000 |
| B11-2 | Installation | Pipework | | 100000 |
| C01 | Bioreactor | Working volume 10m3 | -1/+2bar 1:2 (D:H) | 1600000 |
| C02 | Stirrer | 3 megaprop. | 8kW | 400000 |
| C03 | Filter system | Inlet filter | sparger | 600000 |
| C04 | Thermo system | Cultivation 25-50C steril. | Incl. sensors | 800000 |
| C05 | Control system | SCADA incl. IQ-OQ-PQ | | 800000 |
| C06 | pH control system | | Incl. sensors | 100000 |
| C07 | DO control system | | Incl. sensors | 90000 |
| C08 | Foam control | | Incl. sensors | 30000 |
| C09 | Gas analyse | O2-CO2 | Incl. sensors | 40000 |
| C10 | Level control | | Incl. sensors | 60000 |
| C11 | Installation | Electric/Piping on site | | 400000 |
| C12 | transport | | | 100000 |
| | sum | | | 6995000 |

Project management:

| Nr | Object | Data | Not | Calc. price |
|-----|----------------------|------------------|-----|-------------|
| D01 | " Basic engineering" | | | 50000 |
| D02 | " Final engineering" | | | 400000 |
| D03 | Project management | | | 300000 |
| D04 | Administration | | | 100000 |
| D05 | Tester | FAT-SAT-IQ-OQ-PQ | | 400000 |
| D06 | Training | | | 300000 |
| D07 | Regulatory req | | | 200000 |
| | sum | | | 1750000 |

Downstream equipment:

| Nr | Object | Data | Not | Calc. price |
|-----|----------|-------------|-----|-------------|
| E01 | Decanter | Second hand | | |

Satellite equipment:

| Nr | Object | Data | Not | Calc. price |
|-----|-------------------|----------------------|----------------------|-------------|
| F01 | Compressor system | 10m3/min air (1VVM) | Screw blower 1.0 bar | 350000 |
| F02 | Steam generator | 500kg/h | container | 700000 |
| F03 | CIP system | Partly recirculation | | 150000 |
| F04 | Compressor | 100l/min 7bar | | 8000 |
| | sum | | | 1208000 |

These calculations do not cover Building, Storage, Framework, Ladders, Lights, and similar devices. The calculated prices are collected through tenders from well-known manufactures and sale agencies together with knowledge from previous projects.

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