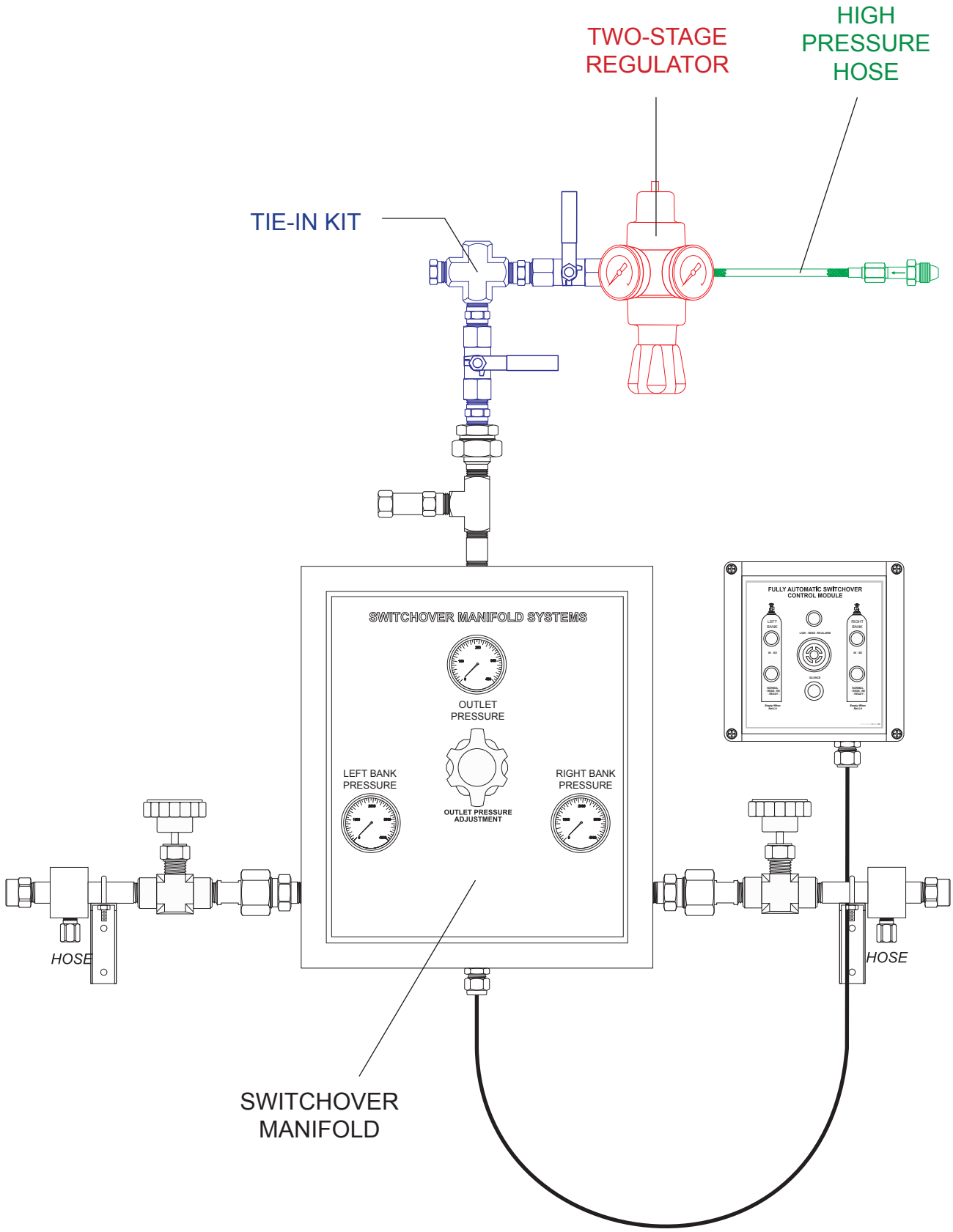
BeaconMedæs

Application Drawing

Emergency Back-Up Supply

In-Vitro Fertilization Laboratory



VERUSLab™

In-Vitro Fertilization

Emergency Back-Up Supply

BACKGROUND

In vitro fertilization (IVF) is a process by which an egg is fertilized by sperm outside the body: in vitro. IVF is a major treatment for infertility when other methods of assisted reproductive technology have failed. Therefore, IVF is in many ways a last and costly recourse for couples who want a baby.

IVF is a complicated process involving many steps; egg retrieval, egg & sperm preparation, fertilization, embryo culture, embryo transfer, to name a few. Each step is already a delicate process. The very last thing IVF technicians have to worry about is the reliability of their work equipment or the laboratory supply (which includes laboratory gas supply). As such, running out of gas in an IVF laboratory can have dramatic consequences.

INTRODUCTION

At one point in time, either because of a mechanical failure, for maintenance purpose or for expansion, any gas delivery system will be down. The proposed emergency back up supply equipment allows you to rapidly and easily feed gas to your pipeline when required.

Switchover Manifold

The fully automatic switchover manifold is the main gas supply equipment. When the “in service” gas cylinder bank is depleted, it will switchover automatically to the other bank without any human intervention. The controller box will actuate a buzzer (which can be silenced) and lit a red light to indicate the need to replenish the depleted gas cylinder bank. It will also reduce the cylinder pressure down to the desired pipeline pressure.

Tie-In Kit

The Tie-In Kit is equipped with a source valve which isolate the switchover manifold from the pipeline. It is also equipped with another valve, the tie-in valve, which allows you to connect the emergency supply equipment, it can be used also for other purposes such as purging or gas sampling. Finally, the cross allows for different outlet configuration; vertical (at the top) or horizontal (left or right).

Two-Stage Regulator & High Pressure Hose

This regulator is connected to the emergency gas cylinder via the high pressure hose. The fact that both regulator and hose are already connected to the Tie-In Kit allows you to react in case of emergency.

Regulator - Unlike single stage regulators, two-stage regulators are keeping the pipeline pressure constant as cylinder pressure decays. This could be of paramount importance if there is no regulator at each point of use. Because it is a high purity pressure reducing regulator, it will not contaminate the gas stream like a neoprene diaphragm regulator would do.

Hose - The high pressure hose is long enough to reach the gas cylinder (about 60 inches tall) from the two-stage regulator high above the manifold.

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