

Safety Power's Duplex Urea Transfer System (UP202)

Description

SCR systems work by injecting urea over a catalyst bed to convert NO_x into harmless nitrogen gas and water vapor. SPI's control & dosing panel contains a compact injection pump that is capable of drawing up to 8ft of suction head. As a result, sites where the urea supply tank is at a significant distance or at a lower elevation require a Urea Transfer System. Multi-engine SCR installations with a common urea tank will also need a Urea Supply System. These systems must take into account unique urea liquid issues, the reliable delivery of the liquid and finally ease of use for the operators of the facility. The Urea Transfer System described herein is suitable for installations that require a urea transfer system for multiple SCR systems (3+) and/or for sites that require redundancy.

Operation

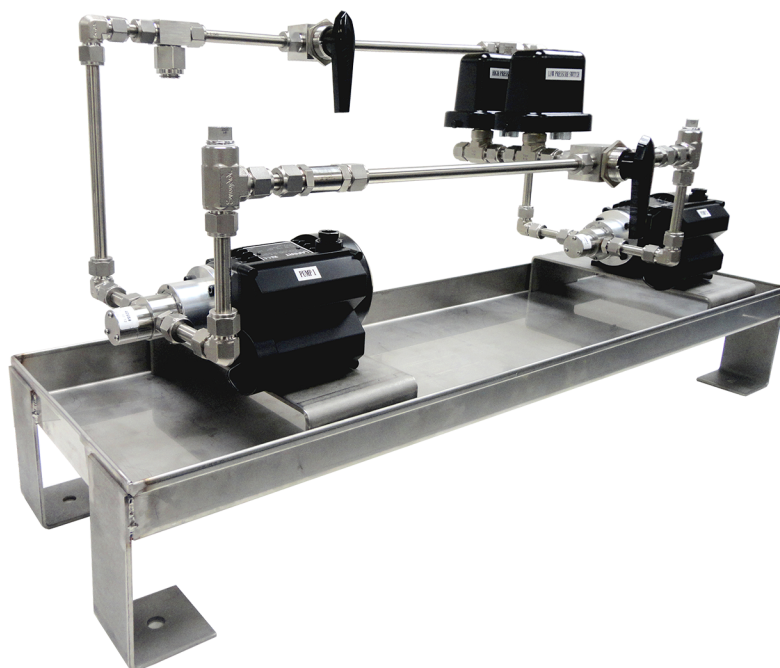
The system consists of a primary pump and an identical secondary pump to serve as a backup in the event of pump failure. Under normal operation, the system operates under "auto" mode. In the event where one pump is being repaired, the user can "manually" select either "pump 1" or "pump 2" to be used as the operating pump. At the inlet to the pump skid shown in the Block Diagram (backside) is an isolation valve which has 3 states. In normal mode it is open to the suction side of both pumps. For maintenance this valve can be manually moved to isolate either pump 1 or pump 2. Pressure gauges on the pump skid show the pump output pressure. Pressure switches on the outlet are monitored by the controller and used to determine when a pump failover is required.

Check valves with a project specified cracking pressure are used to ensure that there is no backflow through a non-operational pump. The system will also provide an associated alarm if a high or low pressure event is registered.



Features

- Reliable duplex pump configuration
- Stainless Steel 304 construction
- Fully integrated with Safety Power's control panel & display
- Tank high/low level alarm display
- Pressure high/low alarm display
- Lockable panel
- Redundant pumps for easy repair
- Check valves
- Built in filter



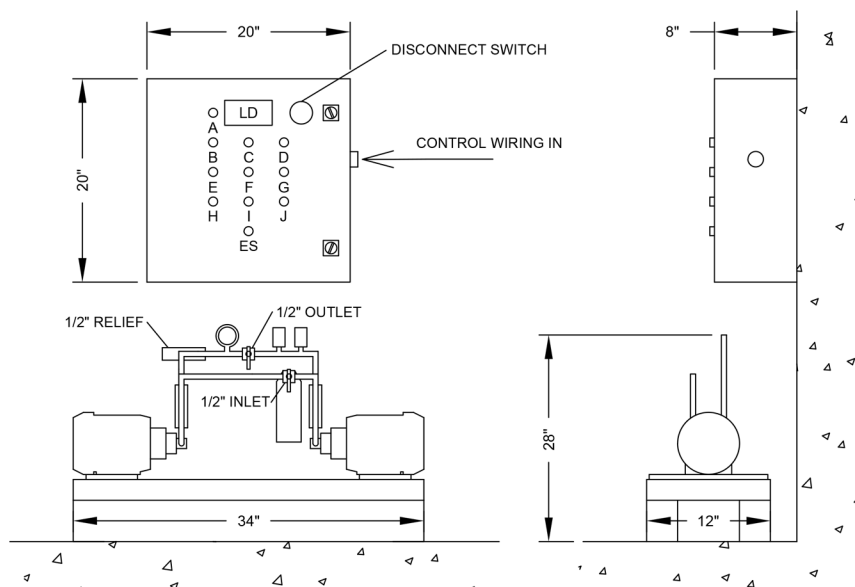
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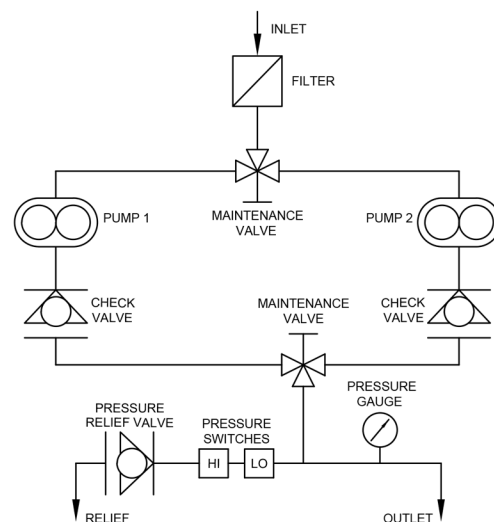
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DIMENSIONAL DRAWING



BLOCK DIAGRAM



A - Panel Power ON Indicator • B - Day Tank Full Indicator* • C - Pump1 Running Indicator • D - Pump2 Running Indicator • E - Day Tank Low Indicator* • F - Low Pressure Indicator
G - High Pressure Indicator • H - Off / Auto / Manual Switch • I - Pump1 / Auto / Pump2 Switch • J - Fault Reset Push Button • ES - Emergency Stop • LD - Tank Level Display**

* Systems without a day tank do not have light "B" and "E" ** Systems without a Tank Level Display do not have a display "LD"

INSTALLATION REQUIREMENTS

- Panel to be installed indoors
- Minimum ambient room temperature is 0°C (32°F)
- Maximum ambient room temperature is 50°C (122°F)
- If installed in same room as SCR or generators, ensure that there is sufficient ventilation to keep room temperature below 50°C (122°F)
- Panel not to be mounted within 6ft of a heat source (Engine, SCR or other)
- Install isolation ball valves on urea in and urea out lines for ease of servicing

INSTALLATION GUIDELINES

- Install pumps in close proximity to urea storage tank
- Install pumps such that urea tank provides gravity fed supply to urea inlet
- Consult with Safety Power to determine ideal installation location

About Us

Safety Power is the global innovator in emissions control for large scale diesel and natural gas engines. The company manufactures the ecoCUBE® SCR, ecoTUBE™ SCR, FOx® and Ox™ range of product that reduce NOx, CO, VOC and PM emissions on engines from 500kW up to 20MW and beyond.

Safety Power also has extensive experience with the associated urea storage & transfer system accessories. This includes urea tanks, air compressors, urea transfer pump systems, fill stations and more.

For more information about our emissions control systems & accessories please contact info@safetypower.ca