RCM Mischanlage
CAT C6.6

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Technische Daten

Abmessungen

Länge:	6000mm
Breite:	2500mm
Höhe:	2640mm
Gewicht:	7000kg
Mischleitung:	0-60m³/h
Dichte:	1.2,5 g/cm³

Kreiselpumpen

Wasserpumpe:	Serva 2x3
Ziekulationspumpe:	Serva 4x5
Fütterpumpe:	Serva 5x6
Mischtank:	3,5 m³

Antriebsleitung:	Caterpillar C6.6 130KW

Serva mixing systems are available in the following forms:

The subject Mini Hemi mixer B10-12-270 and B10-12-410 is designed for single pump cementers and other places where high mixing rates are not required. The Mini Hemi mixer B10-12-270 & B10-12-410 has a nominal mixing rate of 6 bpm and 9 bpm is possible for high water requirement slurries. Thus, with the smaller mixer B10-12-270 & B10-12-410 , smaller recirculation pump, lower horsepower required, this should be a good fit for lower rate cements (although 9 bpm is quite a respectable mixing rate). Since the mixer does not have a center jet nor an inlet elbow, the cement metering valve can be installed in line with the mixer if desired (or an inlet elbow adapter B10-12-391 can be added if desired).

Serva Full Size Hemi Mixer normal mix rate of 12-13 bpm for our B10-12-150 & B10-12-400 Full Size HEMI mixer. This mixer will require only a 4x5 centrifugal pump to supply recirculation flow however a 5x6 would also be a good choice. Max mix water is 300 gpm vs. 375 to 425 for our other mixers. The recirculation rate is less, about 35% less. With these reductions, the required horsepower will be less.

- Kit, mixing system for installation by customer on their unit
- Complete stand alone mixing system
- Complete mixing and pumping system (skid or trailer)

Kit form for installation in a customer's new built unit or rebuilds

Serva Corporation is very interested in the successful use of their mixing systems. To that end, we have certain requirements of the system in which it will be installed. The following identifies the system components and performance requirements:

A. Installation Requirements for Mixing System Kits

Components

The mixing system should consist of the following components:

- Mixing tub High-energy mixer
- Cementing metering valve
- 5x6 recirculation centrifugal pump
- 5x6 boost (transfer) centrifugal pump
- 2x3 or 3x4 mix water centrifugal pump
- Agitating system

B. System Requirements

- **Mixing water:**
  - 300 gpm minimum @ 120 psi, 150 psi shut-in pressure
  - 425 gpm maximum @ 120 psi, 175 psi shut-in pressure

Note: for Mini hemi mixer: **B10-12-270 & B10-12-410**

- It has a nominal mixing rate of 6-9 bpm (Compared to 12-13 bpm for the full size mixer), it requires 225 gpm minimum at 100 psi, and 300 gpm maximum at 130 psi,

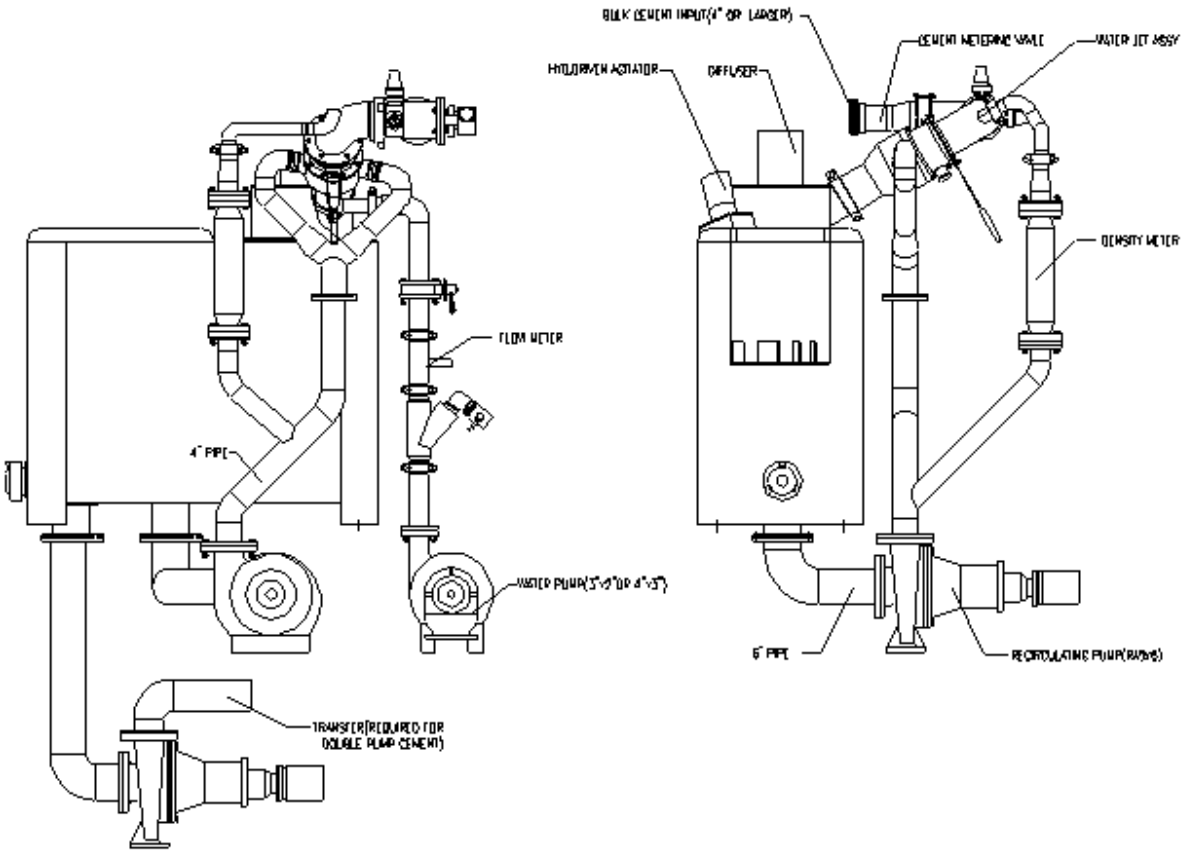
- **Recirculating slurry pump requirements:**
  - 19 bpm min. w/ water @ 40 psi with 60 psi shut-in pressure (The minimum is assuming that the recirculation is dedicated to mixing and is not used for boosting the downhole triplex pump)
  - 25 bpm max. w/ water @ 40 psi with 75 psi shut-in pressure

  Note: For mini Hemi mixer:

  - Recirculation flow: 16 bpm minimum with water. Expected back pressure to be 50 psi while operating at 16 bpm. (Note that the SERVApump 5x6 and 4x5 centrifugal pumps can meet this requirement).
  - Maximum flow: 20 bpm with water.

- **Boost (transfer) pump requirements:**
  - This pump is optional but recommended for single triplex pump downhole pumping systems. It is required for all double pump cementing systems. The mixing system requires a minimum recirculation flow for effective mixing. The minimum flow required is 16 bpm while testing with water. If the recirculation pump is used to boost the downhole triplex pumps as well as provide recirculation flow for mixing, downhole pumping rates higher than 5 bpm will not leave enough energy for mixing. Another reason to include a dedicated boost pump in the system is that the pressure requirements for boost and mixing are often different. When mixing 16.4 ppg density slurry, the recirculation pump pressure can be well over 60 psi whereas the need for boost is probably no more than 30 psi.
  - *Recommendations for boost:* (note: The recommendations for boost pump are the same as the recirculation pump. This is due to the ability of the boost pump to be used as the recirculation if a problem occurs with the primary recirculation pump.)
    - 16 bpm min. w/ water @ 40 psi with 60 psi shut-in pressure
    - 22 bpm max. w/ water @ 40 psi with 75 psi shut-in pressure

The following drawing illustrates a typical installation.

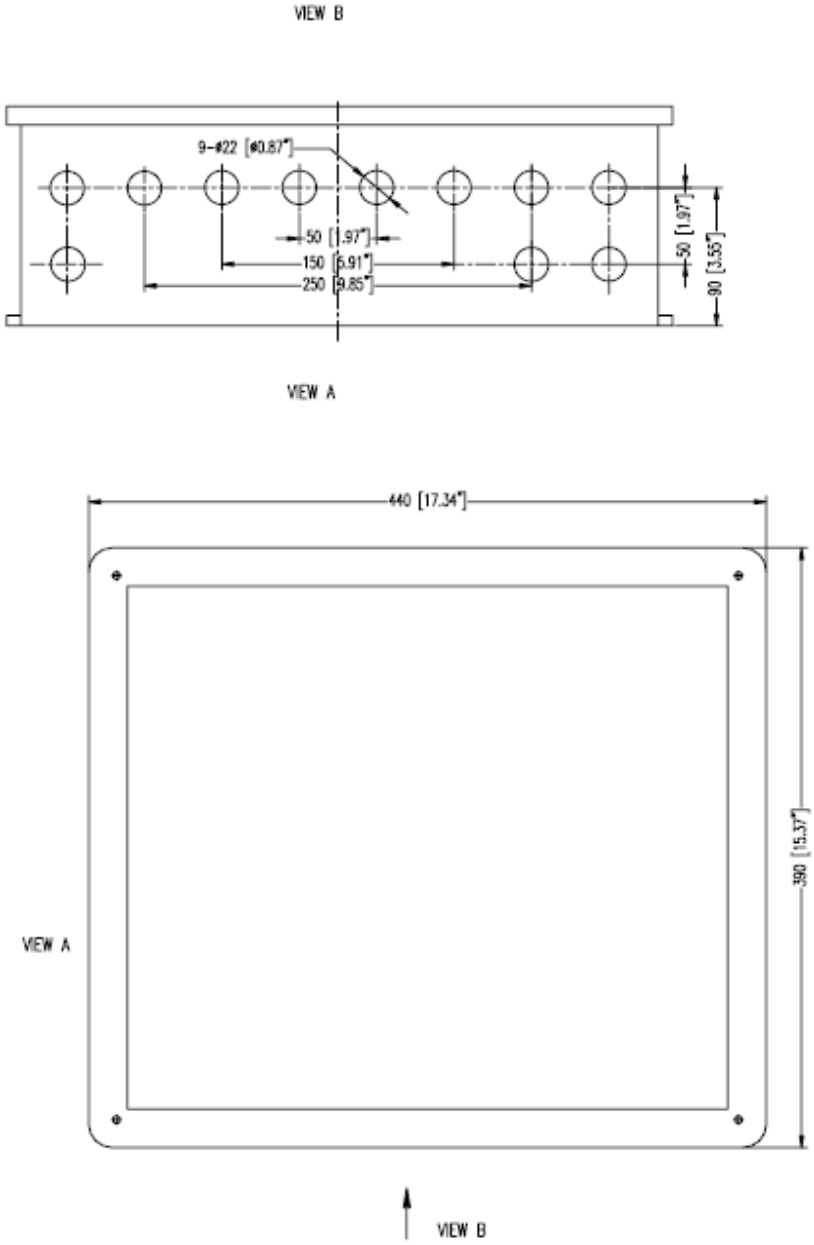


Note: For mini Hemi mixer, the discharge from densitometer will have to be connected to the mixing tank directly.

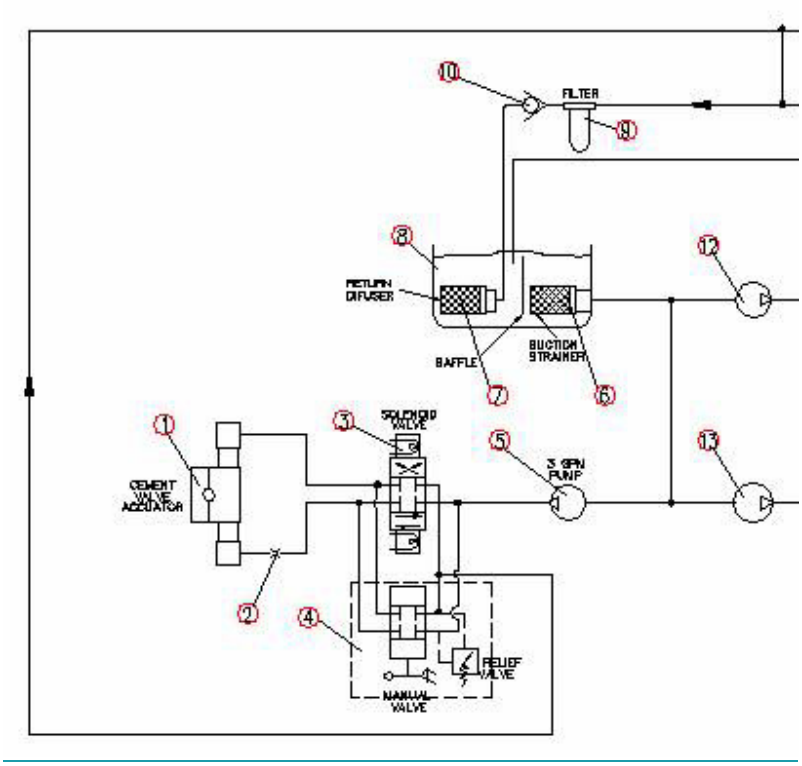
- Operator console need to be cut out to provide a mounting place for the panel view plus

- The computer system is 24VDC system. Minimum of 350 Watt power is required for a system without tub level feature. A minimum of 450 Watts power is required for a system that has tub level.

- Control box need to be mounted. And cables need to be installed from all the sensors (pressure transducers, rate sensor, and densitometer) to the control box.



- Hydraulic lines must be modified for a solenoid valve installation



- Water flow meter to measure water rate must be installed