Boiler Feed Pump

Liqui-Mover® Pump

Applications
The float-free Liqui-Mover boiler feed pump can be used as the main boiler feed pump or for returning high pressure condensate from process equipment with minimal flash loss.

Features
- Designed for high pressure condensate
- Small horsepower differential generating pump
- ASME labeled tanks
- Pre-piped and wired pump for installation ease

Benefits
- Reduced operating cost
- Trouble-free, proven technology
- Minimal flash steam loss
- Quick return on investment

First introduced in the 1930s, the Kadant Johnson Liqui-Mover boiler feed pump has provided a revolutionary way to boost thermal efficiency and reduce operating costs of boiler feedwater pumps. The pressure-equalizing chamber of the Liqui-Mover boiler feed pump permits high temperature condensate to return to the boiler. This improves operating efficiency and reduces fuel consumption up to 25%. Capable of feeding boilers up to 500 HP with one unit, the proven Liqui-Mover boiler feed pump provides long-term reliability and cost savings.
## LIQUI-MOVER BOILER FEED PUMP

### Typical application and savings

#### BEFORE

**OPERATING DATA**

- **Incoming pressure (psig)**: 100
- **Flash pressure (psig)**: 0
- **Flow rate (pph)**: 17,250
- **Steam cost ($/1000 lb)**: 6.02
- **Hours/day operation**: 24
- **Operating days/year**: 250
- **Water and chemical cost ($/1000 gal.)**: 3.25

**FLASH LOSS CALCULATIONS**

- **Heat of liquid at incoming pressure (BTU/lb)**: 309
- **Heat of liquid at flash pressure (BTU/lb)**: 180
- **Flash loss**: 13.3%
- **Flash loss (pounds/hour)**: 2,294
- **Flash loss (pounds/day)**: 55,000
- **Flash loss (pounds/year)**: 13,750,000

**Estimated annual cost**

- **Steam ($6.02 x 13,750)**: $82,700
- **Water ($3.25 x 13,750/8.43)**: $5,300
- **Chemical and heating costs**: $88,000
- **Conventional boiler feed pump electrical cost**: $2,030/year
- **Annual boiler feed operational cost**: $90,030/year

#### AFTER

**OPERATING DATA**

- **Incoming pressure (psig)**: 100
- **Flash pressure (psig)**: 60
- **Flow rate (pph)**: 17,250
- **Steam cost ($/1000 lb)**: 6.02
- **Hours/day operation**: 24
- **Operating days/year**: 250
- **Water and chemical cost ($/1000 gal.)**: 3.25

**FLASH LOSS CALCULATIONS**

- **Heat of liquid at incoming pressure (BTU/lb)**: 309
- **Heat of liquid at flash pressure (BTU/lb)**: 277
- **Flash loss**: 3.5%
- **Flash loss (pounds/hour)**: 606
- **Flash loss (pounds/day)**: 14,500
- **Flash loss (pounds/year)**: 3,625,000

**Estimated annual cost**

- **Steam ($6.02 x 3,625)**: $21,800
- **Water ($3.25 x 3,625/8.43)**: $1,400
- **Chemical and heating costs**: $23,200
- **Kadant Johnson boiler feed pump electrical cost**: $162/year
- **Annual boiler feed operational cost**: $23,362/year

**Note**: Boiler feed water temperature increased 77°F

**TOTAL BOILER FEED SAVINGS**: $66,462/YEAR

### Boiler feed units available

<table>
<thead>
<tr>
<th>Boiler HP-max</th>
<th>100</th>
<th>175</th>
<th>225</th>
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