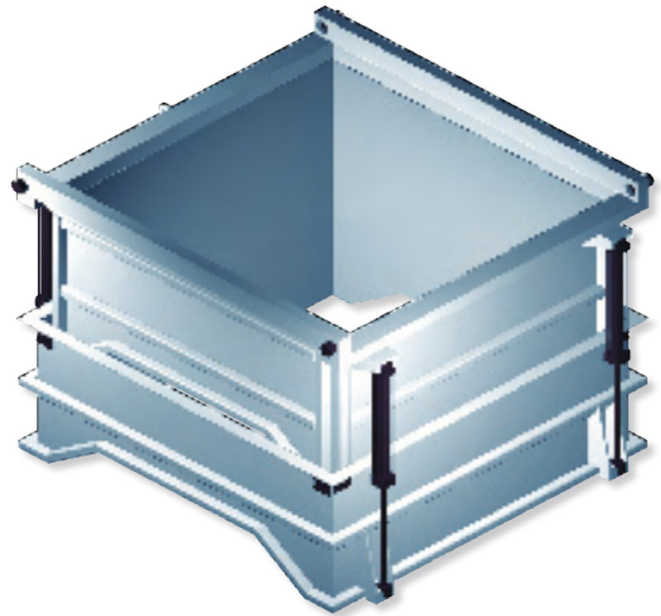


Rail car flood-loading chutes are used to load trains at up to 8,000 TPH of coal into rail cars. These chutes are typically between 1200mm and 2100mm square, depending on the required loading rate. The flood loading chutes have adjustable discharge heights to allow the chute to extend into the rail car during initial loading to prevent spillage and raise to enable the operator to completely fill the rail car. Since the locomotives typically stay attached to the unit train during loading, the flood-loading chute must be able to move out of the locomotive clearance limits. Those clearance limits are generally between 6m and 7.5m above the top of the rail and 2.5m about the rail centerline.

PICOR offers two models of flood loading chutes. The Standard Model is used for installations with standard vertical rail clearance requirements of approximately 7.5m. The Low Head model can be used for vertical rail clearances as low as 6m. To minimize spillage, both of these chutes can be sealed to the flood loading discharge gates.

PICOR's flood loading chutes traverse horizontally to provide the required locomotive clearance and telescope vertically to control loading of the rail cars. The telescopic section overlaps the fixed vertical section and is raised and lowered by hydraulic cylinders. The standard model telescopic section overlaps the fixed section enough to provide lateral stability while loading rail cars.

The telescopic section of PICOR's standard flood loading chute is equipped with a lower section which, if inadvertently contacted by the railcar, will break away from the chute thereby limiting damage. PICOR's Low Head Flood Loading Chute utilizes a carriage which incorporates a break away device that allows the entire chute to fall away if contacted by the rail car or locomotive with minimal damage.



APPLICATIONS

Some typical applications include:

- Volumetric loading of coal from a single point into trains or individual railcars at rates up to 8,000TPH.
- Volumetric loading of coal from two points into trains at rates above 12,000TPH.
- Loading coal from a PICOR Conventional Batch Loading System into trains at rates up to 8,000TPH.
- Loading coal from a PICOR Precision Loading System™ (patented) at rates up to 6,000TPH.
- Loading coal from a PICOR Double Bin Precision Loading System™ (patented) at rates up to 10,000TPH.

ACTUATORS

The actuators available for use on mass flow gates are:

- Hydraulic
- Pneumatic

POSITION INDICATION

For volumetric loading systems, the only position indication required is the operator's visual observation. Most systems are equipped with a switch to indicate the flood-loading chute is in the loading position before the loading gate can be operated.

Precision loading systems will require more position indicators due to the required high level of automation.

- A limit switch can be used to detect the flood loading chute in the loading and stored position and the telescopic section in the raised position.
- A proximity switch can be used to detect the flood loading chute in the loading and the stored position and the telescopic section in the raised position.
- Integral position indication is available from actuator manufacturers to indicate the flood loading chute position.

CONSTRUCTION MATERIALS

Flood loading chutes can be fabricated from, or equipped with, a wide range of construction materials depending on the characteristics of the bulk material being handled, although Carbon Steel with abrasion resistant steel or plastic liners can be used for most applications.

SEALS

For volumetric loading applications, the flood loading chute can be bolted to the discharge gate frame and sealed with caulking and gaskets to prevent escaping dust. The PICOR flood loading chute utilises a compression seal between the traversing section and the fixed section to prevent spillage.

For Precision Loading Systems the fixed part of the flood loading chute is sealed to the discharge of the weigh bin discharge gate by a reinforced rubber load isolation seal.