

JENKINS PRACTICAL PIPING LAYOUTS

How to plan an

INDUSTRIAL WASTE TREATMENT SYSTEM

The rising costs and difficulties of providing satisfactory water supplies have made municipalities, state governments and industry increasingly aware of the need for conserving present sources. In an effort to eliminate or reduce pollution of waters by sewage or industrial wastes, many states and municipalities have drawn up stringent codes regulating the types of waste which may be discharged into streams and rivers.

Waste can be treated by either chemical, physical or biological means, depending on its nature. The simplest treatment is the physical, which involves screening, filtration, and gravity separation. This method is particularly effective on wastes containing suspended solids. The customary treatment for human sewage is biological, to allow the formation of stable organic compounds through the action of bacteria. A great deal of chemical waste resulting from industrial processes responds most readily to chemical treatment.

Neutralization of acid waste is one of the most common problems encountered in the treatment of industrial discharges. When such waste flows untreated into a stream, it destroys organic life and leads to the abandonment of the stream as a source of water supply.

Lime is used for neutralization of acid waste in the system shown. While other chemicals are available, lime is usually the cheapest and most satisfactory neutralizing agent. The waste normally flows to a digester which allows for settlement of solids and serves as a storage center from which flow to the treatment tank is regulated by a liquid level controller.

The treatment tank is equipped with an agitator which mixes the waste with the lime slurry to provide a neutral solution. In treating certain types of waste, precipitation of a solid may occur. This can be removed at intervals, for possible industrial use, in the plant or elsewhere, or for disposal. The effluent is decanted off the top of the treatment tank.

The proportion of lime to be added is deter-

mined by a recording pH regulator, which operates the control valve on the slurry line. It is responsive to the pH of the waste and admits the required amount of slurry for neutralization.

The slurry is made by admitting quicklime and water, regulated by a liquid level controller, to the lime slurry mixer, which is equipped with an agitator. Emergency lines for direct discharge bypassing the treatment system are indicated in the diagram.

Bronze valves are used on the fresh water supply lines and all iron valves on the lime slurry lines and waste lines in this system. The Fig. 40-A recommended for the lime slurry tank drain is the popular Jenkins U-Bolt Gate. The simple, rugged construction of this valve makes it a practical design for punishing service, especially where sediment is a problem. It is easy to clean, and the removable "Bonnet-Saver Bushing" can be quickly and economically replaced, when worn, to restore new-like operating efficiency. It is available with Iron Body, Bronze Mounted (as Fig. 42-A) as well as All Iron.

Consultation with accredited piping engineers and contractors is recommended when planning any major piping installation.

To save time, to simplify planning, to get all the advantages of Jenkins specialized valve engineering experience, select all the valves you need from the complete Jenkins line. It's your best assurance of lowest cost in the long run. Jenkins Bros., 100 Park Ave., New York 17. Sold through leading Industrial Distributors everywhere.

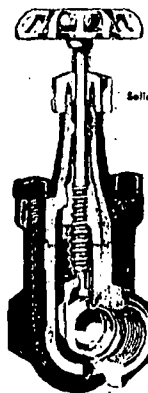


Fig. 40-A
All Iron
Solid Wedge - Inside Screw
Traveling Spindle
U-BOLT
GATE VALVE
150 lbs. Stem
325 lbs. C.W.G.

SEND FOR THIS FOLDER. It illustrates and describes the unique construction features of Jenkins U-Bolt Gate Valves, and gives complete dimensions. Fill out and mail the coupon today.

JENKINS BROS., 100 Park Ave.
New York 17, N. Y.

Please send folder on U-Bolt Gates

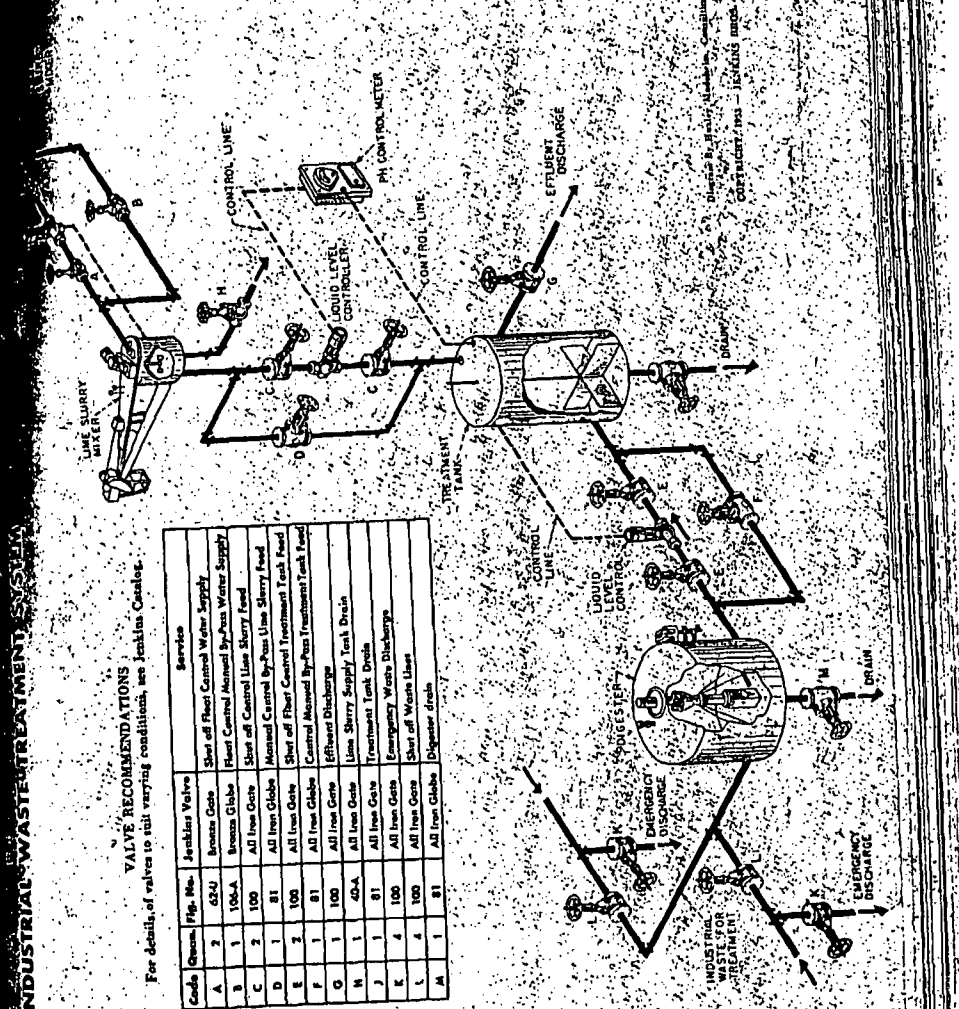
Name _____

Company _____



INDUSTRIAL WASTE TREATMENT

7



VALVE RECOMMENDATIONS

For details of valves to suit varying conditions, see Jenkins Catalogs.

Code	Ques. No.	Jenkins Valve	Service
A	7	Bronze Gate	Shut off Fresh Water Supply
B	1	Bronze Globe	Plant Control Manual By-Pass Water Supply
C	2	All Iron Gate	Shut off Control Line Slurry Feed
D	1	All Iron Gate	Manual Control By-Pass Line Slurry Feed
E	2	All Iron Gate	Shut off Plant Control Treatment Tank Feed
F	1	All Iron Gate	Manual Control By-Pass Treatment Tank Feed
G	1	All Iron Gate	Effluent Discharge
H	1	All Iron Gate	Lime Slurry Supply Tank Drain
I	1	All Iron Gate	Treatment Tank Drain
J	1	All Iron Gate	Emergency Waste Discharge
K	4	All Iron Gate	Shut off Waste Line
L	1	All Iron Gate	Discharge Drain

Illustrating the proved 3-point formula for trouble-free, time-defying hookups

- A Use the right type valve for the service
- B Place valves correctly in the line
- C Choose Jenkins for lifetime economy

JENKINS
LOOK FOR THE DIAMOND MARK
VALVES



Jenkins Bros.