

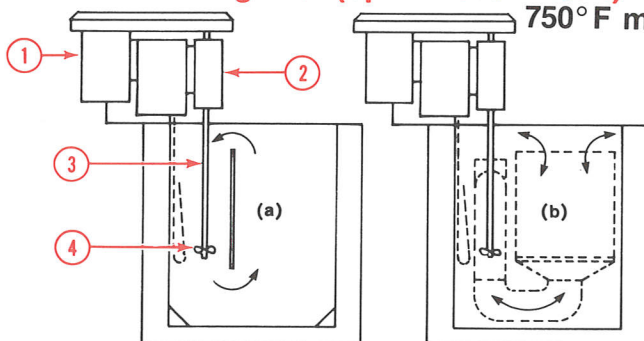


AGITATOR MIXER SYSTEMS

Ajax Electric not only offers spare parts for existing agitator/mixer systems but also designs special systems — new or retro-fit — to meet specific heat treating requirements. Agitator/mixer systems have been successfully developed by Ajax Electric to a broad variety of applications, from low temperature brine and oil quenching up through drawing and intermittently in special high temperature carburizing. The two basic Ajax specifications for Agitator/Mixer Systems are outlined below:

Fixed Vertical Agitator (Specification No. 1)

750° F max.



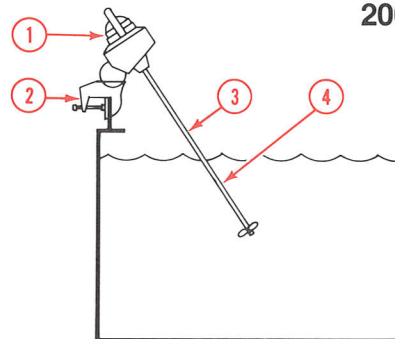
1. **Electric Motor** (outboard mounted), constant or variable speed, 1 to 10 HP.
2. **Water-cooled Bearings**, where required.
3. **Propeller Shaft**, length to suit bath depth.
4. **Propeller**, from 4 in. to 7 in. diameter.

Options for Specifications 1:

- a) Free flow agitation
- b) Directed flow - upward or downward

Movable Inclined Agitator (Specification No. 2)

2000° F max.

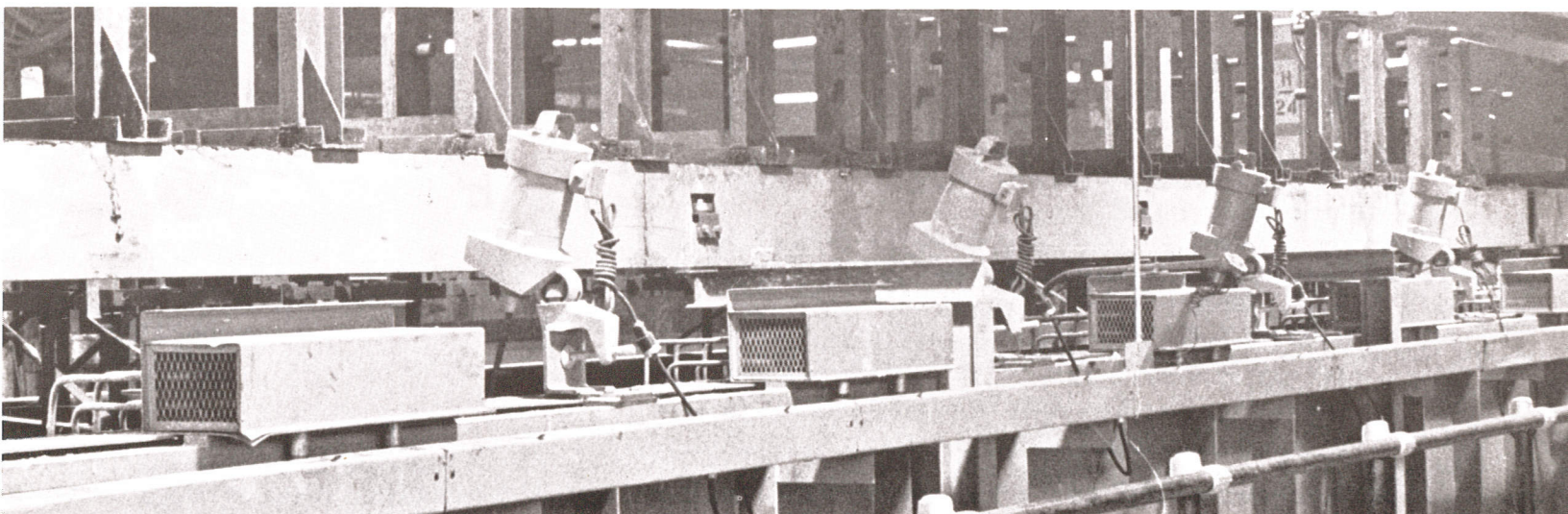


1. **Motor**, air-operated or electric, 1/3 to 1 HP.
2. **Mounting**, Options A, B, C, or D (see below)
Option "b" shown
3. **Propeller Shaft***, length to suit bath depth.
4. **Propeller***, from 3 in. to 7 in. diameter.

*Steel or Stainless Steel for 1000° F max., special alloy for 1000° F to 2000° F max.

Options for Specifications 2:

- a) Moveable platform with Insulated (thermally & electrically) Base.
- b) Clamp swivel mounting with Insulated Base.
- c) Fixed swivel mounting with Insulated Base.
- d) Heat Shield and heat sink for high temperatures.



This programmable robot-run bearing hardening line incorporates several agitator/mixer systems in the nine-station line. For temperature

uniformity, four propeller agitators are employed in the 25 ft-long draw furnace, operating at 375-450° F.

Typical Applications

Some of the more common applications for agitator/mixer systems are noted below, together with some of the fundamental reasons for designing-in or retrofitting these systems.

APPLICATION

ADVANTAGES OF ADDING AGITATOR/MIXER SYSTEMS

Washing & Rinsing

Agitation accelerates cleaning. Also more uniform water temperatures.

Water or Oil Quenching

Improved heat extraction for higher and more uniform hardness and bath temperature uniformity.

Low Temp. (1100°F max.) Salt

includes Quenching,
Tempering
Surface Cleaning
Aluminum Brazing

Temperature uniformity, Faster rates of heating (and cooling). Also to minimize salt solidification on furnace bottom.

High Temp. (to 2000°F) Salt

Propeller-type agitation only for short periods of time (15 to 30 minutes)

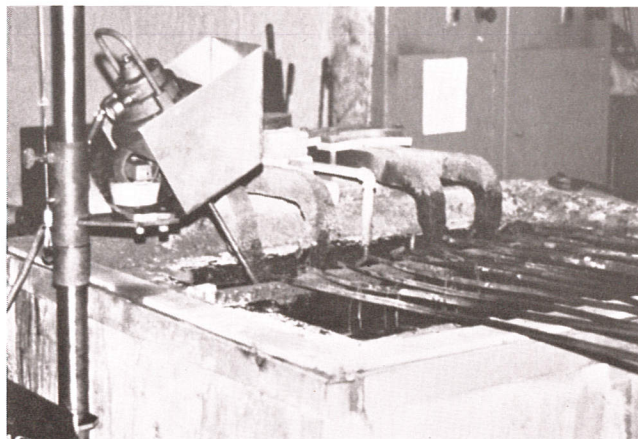
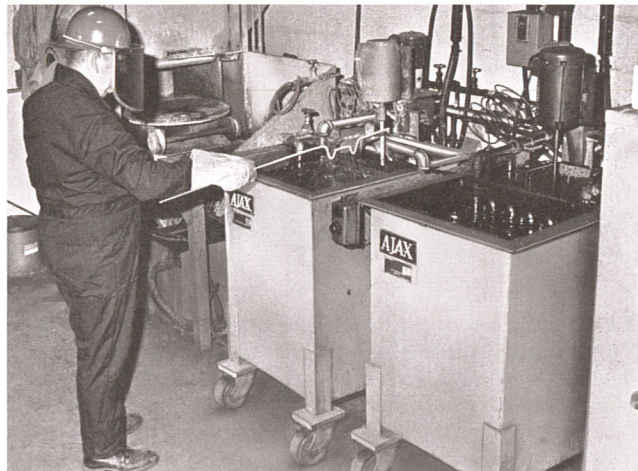
Provides more uniform bath temperatures. Faster heating rates. Keeps salt from solidifying on bottom.

Special Carburizing (1500-1700°F) Salt

Propeller-type agitation for continuous use (but removed when furnace idles).

Mechanically stirs graphite particles into molten bath to maintain uniform distribution. Also for bath temperature uniformity.

Ajax propeller-type agitator/mixer employed in a special carburizing application (No-Cy). Mixer keeps graphite particles evenly distributed throughout bath. Note use of moveable platform (Option a) on this installation.



(Clip, complete and mail to AJAX ELECTRIC COMPANY)

☐ Proceed with repairs or replacement parts, use our P.O. # _____
(or)

☐ Please advise costs and delivery.

(For quick reply call **Ajax Spare Parts Dept. (215) 947-8500**)

Ajax furnace Serial # _____

☐ Design a suitable Agitator/Mixer System for our furnace described below:

- 1) Description of Application: _____
- 2) Drawing of sketch of furnace or tank (attached)
- 3) Type of Medium: ☐ Water ☐ Oil ☐ Salt _____ (type)
- 4) Operating Temperature: _____ °F
- 5) Type of Agitator ☐ Vertical (Spec. No. 1) ☐ Inclined (Spec. No. 2)
- 6) Power ☐ Air _____ psig; ☐ Electric _____ Volts _____ Hz
_____ Phase
- 7) Remarks: _____

COMPANY _____

ADDRESS _____

CITY _____ **STATE** _____ **ZIP** _____

Name of Authorized Person _____ **PHONE NO.** _____

AJAX
ELECTRIC COMPANY



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