

# THE BABCOCK & WILCOX CO.

## TUBULAR PRODUCTS DIVISION

BEAVER FALLS, PA.

JOB MATCHED SEAMLESS WELDING FITTINGS AND FORGED STEEL FLANGES

### DISTRICT OFFICES

ATLANTA 8, GA. .... 805 Peachtree St. N.E.  
 BEAVER FALLS, PA. .... 4029 4th Avenue  
 BOSTON (WELLESLEY 81), MASS. .... 66 Central St.  
 CHICAGO 3, ILL. .... 105 S. La Salle St.  
 CINCINNATI 6, OHIO .... 2330 Victory Pkwy.  
 CLEVELAND 20, OHIO .... 11955 Shaker Blvd.  
 DENVER 6, COLORADO .... 2829 E. Second Ave.  
 BERKELEY (DETROIT), MICH. .... 2766 W. Eleven Mile Rd.  
 HOUSTON 6, TEXAS .... 3015 Richmond Ave.  
 MILWAUKEE 15, WISCONSIN .... 2430 S. 28th St.  
 NEW YORK 17, N.Y. .... 666 Third Ave.  
 PASADENA, CALIF. .... 94 S. Los Robles Bldg.  
 PHILADELPHIA 2, PA. .... 1919 Packard Bldg.  
 ST. LOUIS 5, MO. .... 7751 Carondelet Ave.  
 SAN FRANCISCO 3, CALIF. .... 785 Market St.  
 SYRACUSE 3, N.Y. .... 731 James St.  
 TULSA 19, OKLA. .... 1810 S. Baltimore St.

## A COMPLETE LINE OF WELDING FITTINGS AND FLANGES FOR ALL PROCESS PIPING

| Types of Fittings |    |    |    |    |    |
|-------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                   | 90° Elbow — Long Radius                                                             | 90° Elbow — Short Radius                                                            | 90° Elbow Long Radius Reducing                                                      | 90° SR Elbow — Long Radius                                                          | 45° Elbow — Long Radius                                                             |
|                   |    |    |    |    |    |
|                   | 180° Return — Long Radius                                                           | 180° Return — Short Radius                                                          | 180° Return — Extra Long Radius                                                     | Cap                                                                                 | Tee — Straight                                                                      |
|                   |    |    |    |    |    |
|                   | Reducer — Concentric                                                                | Reducer — Eccentric                                                                 | Saddle                                                                              | Lap Joint Stub End                                                                  | Cross                                                                               |
|                   |    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|                   | Cross — Reducing                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Types of Flanges  |    |    |    |    |   |
|                   | Welding Neck Flange                                                                 | Slip-on Flange                                                                      | Lap Joint Flange                                                                    | Threaded Flange                                                                     | Socket Welding Flange                                                               |
|                   |  |  |  |  |  |
|                   | Blind Flange                                                                        | Reducing Flange                                                                     | Welding Neck Orifice Flange                                                         | Slip-on Orifice Flange                                                              | Threaded Orifice Flange                                                             |
|                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |
|                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Long Neck Flange                                                                    |

B&W's Welding Fittings operations are completely integrated with the Division's facilities for research, development and product quality control as well as steel and tube-making. This means you get 1) complete quality control at every step from melt to the finished product, 2) a complete process piping package from one source... job-matched to end-use service, 3) more effective control of specifying

and buying thru one-source delivery, and 4) on-time deliveries... integration permits flexible production schedules, particularly in the specialized steels.

B&W Welding Fittings and Flanges are available in Carbon, Alloy and Stainless Steels, in a complete range of types and sizes including light wall for gas distribution systems. They are manufactured to standards covered by ASA,

MSS, ASTM, ASME, API, AGA, etc.

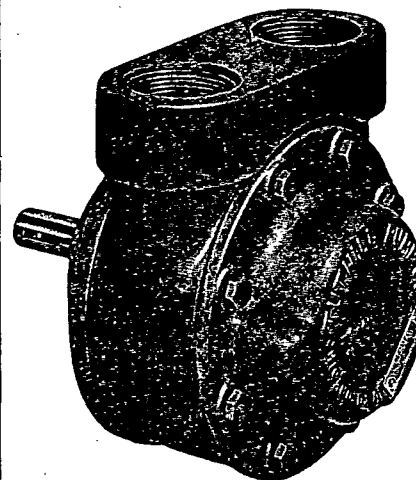
For full information, call on any B&W Welding Fittings Distributor, any of the District Sales Offices listed above, or write, The Babcock & Wilcox Company, Tubular Products Division, Fittings Plant, P. O. Box 230, Beaver Falls, Pa.

**Babcock & Wilcox**

TA-1037 B

# TUTHILL AUTOMATIC REVERSING PUMPS

positive reversing action...without valves...  
with port positions constant



The Model RCF shown is one of 375 different models of Tuthill pumps supplied with Tuthill's exclusive automatic reversing feature. Using the time-proven operating principles described below, these pumps provide positive reversing action without the use of valves. Port positions remain constant regardless of repeated changes in shaft rotation. Operating efficiency is uniformly high in both flow directions.

■ Tuthill automatic reversing pumps provide special benefits in applications where the pump must be driven from a reversing shaft... or where machinery must be shipped without knowing the ultimate direction of the driving unit. These pumps have proven their efficiency and ability to solve complex design problems in thousands of applications... such as refrigeration compressors and machine tools.

■ Tuthill provides a complete selection of sizes and models to fit practically every design requirement for pressures to 500 psi, speeds to 3600 rpm and capacities from 1/4 to 200 gpm. These are described in our catalog 105. Write today for your copy... or, better yet, send details or drawings so our engineers can make specific recommendations.



COUNTER-CLOCKWISE ROTATION.



CLOCKWISE ROTATION.

**THE PUMPING PRINCIPLE...** Tuthill automatic reversing pumps operate through the use of a rotor, idler gear and crescent-shaped partition which is integral with a moving part called the idler carrier.

The upper diagram shows how power is applied in counter-clockwise rotation and transmitted to the idler gear with which it meshes. The space between the outside diameter of the idler and the inside diameter of the rotor is sealed by the crescent. As the pump starts, teeth come out of mesh increasing the volume... creating a partial vacuum... drawing liquid into the pump through the suction port. The liquid fills the spaces between the teeth of the idler and rotor and is carried past the crescent parti-

tion to the pressure side of the pump. When the teeth mesh on the pressure side, liquid is forced from the spaces and out through the discharge port.

When shaft rotation changes from counter-clockwise the idler carrier (including the idler gear and crescent) automatically rotates 180° to the suction zone to the position shown in the lower drawing. This changes the direction of flow within the pump without changing port positions.

The idler carrier rotates in a cover casing fitted with stops so the crescent can rotate only 180°...always through the suction zone.

If counter-clockwise rotation is resumed the crescent will swing back to the original position.



**TUTHILL PUMP COMPANY**

939 EAST 95th STREET, CHICAGO 19, ILLINOIS

Tuthill manufactures a complete line of positive displacement rotary pumps in capacities from 1/4 to 200 gpm; for pressures to 500 psi; speeds to 3600 rpm