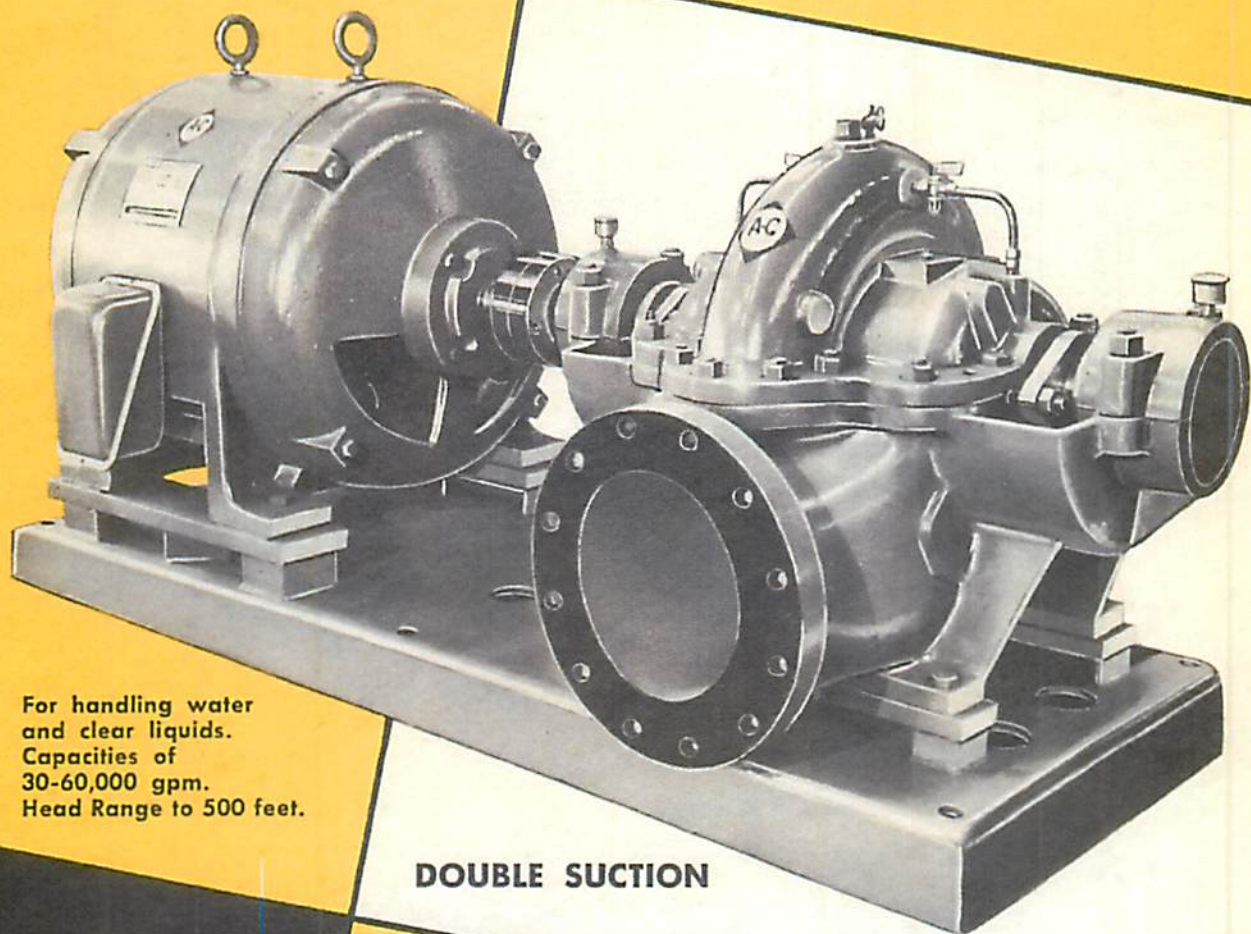


Type **S** SINGLE STAGE CENTRIFUGAL PUMPS



For handling water
and clear liquids.
Capacities of
30-60,000 gpm.
Head Range to 500 feet.

DOUBLE SUCTION

Heavy duty construction.
Horizontally split casing.
Ball bearings.
Coupling driven.

CAC 6007 F



CANADIAN ALLIS-CHALMERS

SECTIONAL PARTS LIST STANDARD &

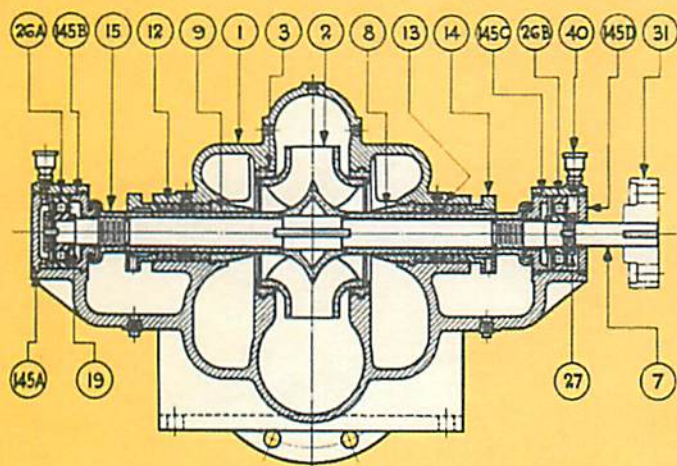


FIGURE A —
INTEGRAL PUMP CASING — SINGLE ROW
BALL BEARINGS — GREASE LUBRICATION.

2 x 1½ SLH, 2 x 1½ SNH, 2½ x 2 SJH, 3 x 2½
SJH, 3 x 2½ SJ, 4 x 3 SH, 4 x 3 SHH, 4 x 4 SH,
5 x 5 SG, 6 x 6 SF AND 10 x 8 SE ONLY.

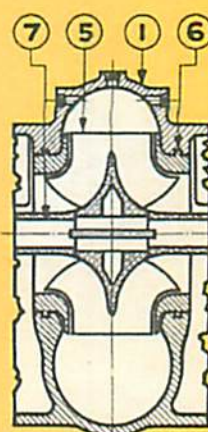


FIGURE B —
OPEN IMPELLER WITH
CASING SIDE PLATES.

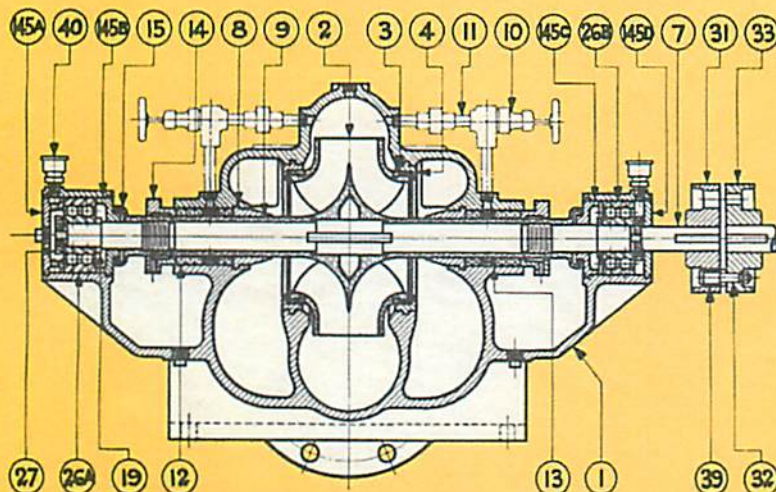


FIGURE C —
INTEGRAL PUMP CASING
WITH GREASE LUBRICATION
AND DOUBLE ROW BALL BEARINGS.

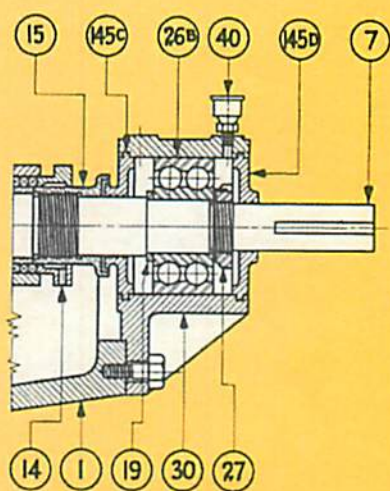


FIG. "D"
PUMP CASING
DETACHABLE BEARING HOUSING
GREASE LUBRICATION
DOUBLE ROW BALL BEARINGS

3 x 2½ SK, 3 x 2 SNH, 4 x 2 SLH, 4 x 3 SK, 4 x 3 SKH, 5 x 4 SJ, 6 x 5 SJ, 8 x 6 ST, 8 x 8 SF, AND 10 x 10 SF
ARE NOT NORMALLY SUPPLIED WITH PART NO. 4 IMPELLER WEARING RINGS.

PART No.	NAME OF PART	PART No.	NAME OF PART
1	CASING	31	PUMP HALF COUPLING
2	ENCLOSED IMPELLER	32	COUPLING PIN WITH NUT & WASHER
3	CASING WEARING RING	33	MOTOR HALF COUPLING
4	IMPELLER WEARING RING	39	RUBBER BUSHING FOR COUPLING
5	OPEN IMPELLER	40	LUBRICATION FITTING
6	SIDE PLATES	42	ADJUSTABLE SHIMS
7	SHAFT	53	FELT WASHER
8	STUFFING BOX BUSHING		
9	SHAFT SLEEVE		
10	WATERSEAL VALVE	84	OIL SIGHT FLOW GAUGE
11	WATERSEAL PIPING	94	COOLING COIL
12	PACKING	112	OIL VENT
13	SEAL CAGE	118	MECHANICAL SEAL
14	GLAND	131	THRUST COLLAR
15	SHAFT SLEEVE NUT & SLINGER	132	THRUST CAP
17-T	BEARING SHELL (THRUST END)	133	THRUST SLEEVE NUT
17-C	BEARING SHELL (COUPLING END)	134	THRUST SHOE RETAINING RING
19	SET COLLAR	135	THRUST BEARING SHOE
22	THRUST SLEEVE	155	THRUST SHOE RETAINING BLOCK
26-A	THRUST BEARING	140	THRUST BEARING HOUSING & CAP
26-B	RADIAL BEARING	145-A	BEARING END PLATE (THRUST) OUTBOARD END
27	LOCKNUT & WASHER	145-B	BEARING END PLATE (THRUST) SLINGER
29	OIL RING	145-C	BEARING END PLATE (RADIAL) SLINGER
30	BEARING HOUSING & CAP	145-D	BEARING END PLATE (RADIAL) COUPLING END

ALLIS-CHALMERS
Fire Pumps
Underwriter Listed

12 x 10 Type
SJF Fire Pump
rated at 2500 gpm
at 125 psi.



Vertical Drywell Type S-V pumps are available in most sizes where for reasons of space saving or layout, this design is advantageous. The pumps are supplied with a cast iron pump stool, registered and dowelled to the pump casing. The stool for the motor may in turn be registered and dowelled to the pump casing or may be mounted on the floor or superstructure above. When the motor is to be mounted directly on the pump (See Fig. 8) the height is such that the motor shaft and the pump must be connected by a flexible coupling. However, in such installations the pump bearings take the complete thrust and make it unnecessary to purchase a vertical motor with special high thrust bearings.

When the driver is to be mounted above the pump (See Fig. 9) on a floor or superstructure, the intermediate shafting provided is usually of the flexible type with intermediate guide bearings when required. A variation occasionally desirable is to have a solid shaft with solid coupling at the top and guide bearings with a flexible coupling at bottom.

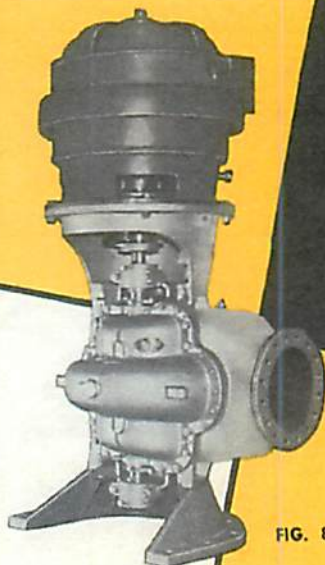


FIG. 8



FIG. 7

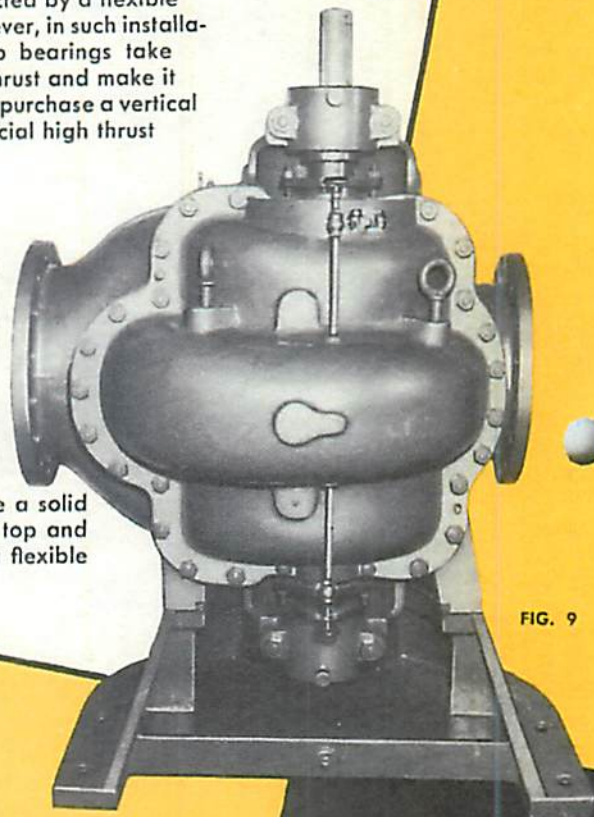


FIG. 9

"PLEASE NOTE" DIMENSIONS ARE APPROXIMATE ONLY — DO NOT USE FOR CONSTRUCTION PURPOSES.

1. Integral indicates that pump casing and end bearings are cast in one piece.
2. Detachable indicates that pump casing and bearing housings are cast separately, machine registered and dowelled together.
3. Rotation can be made for clockwise and counter-clockwise — when looking at pump from the coupling end — specify rotation when entering order.
4. Detachable bearings optional.
5. Dimension V is the overall dimension of any drive selected.
6. Dimension "X" is dimension "C" or dimension "W" whichever is greater, plus height of the base. Approx-

imate heights of bases as follows: — Pumps to 4 x 3 size = 3", 5 x 4 to 10 x 10 size = 4½", 12 x 10 to 18 x 16 size = 6", 18 x 18 to 30 x 24 size = 8", 36 x 30 size = 10".

7. Dimensions "R", "S", "T", and "U" on the 20 x 18 and 30 x 24 LS-pumps are off-set from center-line of pump casing. The greater dimensions are on the suction side of casing and the smaller dimensions are on the discharge side of the casing.
8. Dimensions "J" and "O" showing thickness of nozzle flanges may vary with pressure requirements.
9. Baseplates will be of rolled steel plate or structural shape fabrication unless otherwise specified.



CANADIAN ALLIS-CHALMERS

YOU SAVE WITH THESE STANDARD FEATURES

Designed and built for lasting efficiency and low-cost maintenance.

CASING is split horizontally to permit removal of the top half and rotating element without disturbing the piping and drive. Suction and discharge connections are in the lower half of the casing.

IMPELLER is hydraulically balanced and passages are finished to a smooth surface. The impeller is of the double suction enclosed type for better performance under critical suction conditions.

WEARING RINGS protect the casing and assure continuous high efficiency. They are held in place by a tongue and groove, and can be easily replaced when necessary.

IMPELLER wearing rings are supplied on the larger sizes of pumps, and are fastened to the impeller around the impeller inlet opening. A close running clearance with the casing wearing ring minimizes recirculation loss — ensures high hydraulic efficiency.

SHAFT is of special heat-treated steel, machined and ground to close tolerances. Being of heavy design, it ensures low stress values and minimum deflection. This permits close running tolerances with resultant higher efficiency throughout the pump.

STUFFING BOX bushings are provided to protect the casing from wear. They are held in position by a tongue and groove.

SHAFT SLEEVES have heavy walls and are made from castings. The design is such that the sleeve extends through the stuffing box right up to the impeller hub, thereby protecting the shaft from wear and corrosion.

PACKING is inserted in a deep stuffing box and is of soft well-lubricated type to extend the life of the shaft sleeves.

SEAL CAGES distribute the sealing liquid equally around the shaft. They are of the split type for easy removal.

GLANDS are split for ease of packing and equipped with a drip pocket at the bottom to take care of leakage.

SHAFT SLEEVE nuts not only hold the impeller and sleeves in position but serve as liquid deflectors to keep liquid from the bearing housings.

BEARING CAPS fit tightly onto the bearing housing and are dowelled in position for easy alignment.

BEARING HOUSING and cap are split along the centre line. The housings on the smaller sizes are cast integral with the lower half of the casing to ensure true alignment of the rotating element. In the larger sizes the bearing housings are detachable from the casing and split along the centre line of the shaft for easy removal of the rotating element.

BALL BEARINGS are grease lubricated and of heavy duty design.

SHAFT NUTS and **WASHERS** of steel construction are furnished to hold the bearings in position. Nuts are keyed to the pump shaft in order to hold bearings firmly in position.

COUPLINGS of the pin and rubber bushing design are standard equipment. Other types available if required.

BEARING END PLATES are accurately finished and held in position by a tongue and groove arrangement.

OPTIONAL

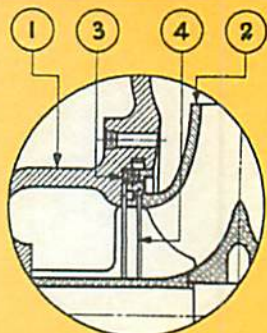


FIGURE 1 — AXIAL
TYPE WEARING RING.

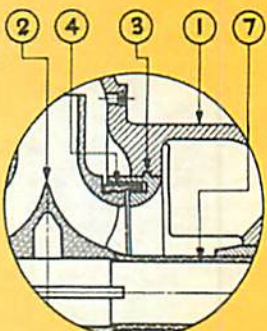


FIGURE 2 — SINGLE
LABYRINTH TYPE WEARING
RINGS.

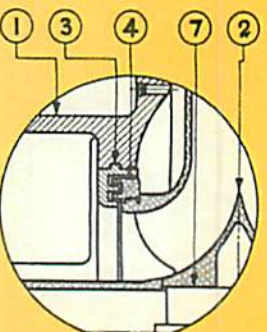


FIGURE 3 — DOUBLE
LABYRINTH TYPE WEARING
RINGS.

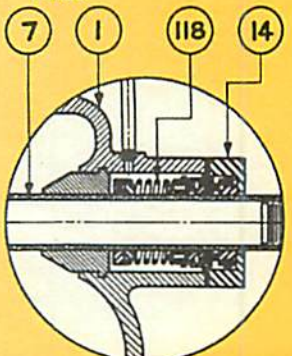


FIGURE 4 —
MECHANICAL SEAL.

ALL WEARING PARTS REPLACEABLE. CASING DOES NOT FORM A RUNNING CLEARANCE — LOW COST EASILY REPLACEABLE PARTS TAKE ALL THE WEAR.

YOU SAVE WITH THESE OPTIONAL FEATURES

(available at nominal extra cost)

Fig. 1. Adjustable wearing rings to cut pump maintenance costs are available. This adjustable clearance on the wearing rings keeps pump efficiency high — has saved as much as 75% maintenance and replacement costs. Small axial clearances exclude or pass the solids and prevent jamming.

Simple adjustments:

1. Remove locking pin.
2. Turn adjustable wearing rings to desired clearance.
3. Reset locking pin.

Fig. 2 & 3. Labyrinth type wearing rings can be supplied where their use is advantageous.

Fig. 4. Mechanical Seals can be fitted when desirable or necessary, particularly for the handling of volatile or hazardous liquids.

Fig. 5. Bearings — sleeve bearings with thrust collar can be fitted on certain pump sizes.

Fig. 6. Kingsbury bearings as illustrated are available on some of the larger pumps.

Open impellers and sideplates can be provided for the handling of liquids containing foreign materials. The impeller may be fitted to existing standard pumps

without any change in dimensions. (See Page 2 Fig. B). At present time the following units are available with open impellers: 3 x 2½ SK, 4 x 3 SK, 4 x 3 SH, 5 x 4 SJ, 6 x 5 SJ, 6 x 5 HS, 10 x 10 SF, 10 x 8 SE, 12 x 10 SG, 12 x 12 SE, 14 x 12 LS, 16 x 14 SE, 18 x 16 SF, 20 x 18 LS.

Smothering glands are available as an additional feature — to cool the gland and reduce heat transfer along the shaft. They will also condense and carry away steam and any inflammable or toxic liquids being pumped.

Location of suction and discharge nozzles. While the normal arrangement is for side suction, side discharge flange, the following units are available with bottom suction, side discharge: — 12 x 10 SH, 14 x 12 SH, 20 x 16 SI, 24 x 24 SD, 24 x 24 SE and 36 x 30 LS. The 20 x 18 SH is available only in bottom suction with bottom discharge.

Baseplates are normally of fabricated steel extended to receive the driver. Drip lip construction is available if required. Additional extras include cast iron baseplates with or without drip lip, and filler pads to accommodate the next larger motor frame.

Materials and construction. Pumps are available bronze fitted, or all iron, all bronze, all stainless steel, all Ni-Resist, steel etc., depending on the liquid being handled.

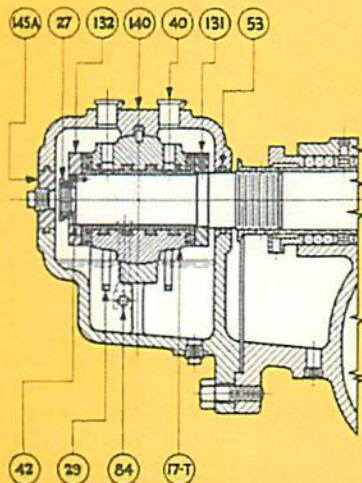


FIGURE 5 — SLEEVE BEARING WITH THRUST COLLAR.

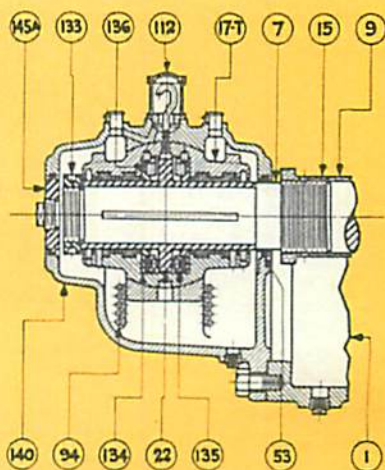


FIGURE 6 — KINGSBURY THRUST BEARING.

