Nomenclature

Kraissl Model 60 Series pumps are designated by an additive code. Model 60 indicates the design. The division number is the size. The suffix letter E after the division number indicates pump head only with a foot. The suffix letter A after division number indicates pump head only with flange mounting This is an incomplete specification unless followed by a flange designation. Motorized pumps for flange mounting carry the designation AMD after the division number and when supplemented by motor frame number, constitute a specification of the flange type motor with which it can be mounted. The designation RD indicates Reduction Drive. Thus ERD after division number indicates pump with foot with reduction drive on master base plate and ESRD indicates pump with foot and reduction drive of S type base plate. Sizes used with automatic oil burning systems are listed by Underwriters Laboratories, Inc., for fuel oil service and listing card MP 2341 will be sent on request. The part number added to the foregoing code constitutes a complete specification for a desired part.

DESIGN AND OPERATION

These pumps are of the rotary, positive displacement internal gear type. The displacement mechanism consists of an integral rotor and shaft (part 4) which mates with an idler gear (part 5). A crescent shaped section machined into the face plate (part 2) effects a seal between rotor and idler. These pumps are operated at direct motor speeds with liquids of low viscosity and by reduction drive with heavy oils to reduce cavitation or with liquids of limited lubrication value. Operating vacuums at pump intake should be minimized for best performance including least noise and longer live. In general, suction line piping size and length should be chosen to keep operating vacuums below fifteen inches of mercury. For more performance information see descriptive bulletin covering each type of assembly.

INSTALLATION

Remove packaging from pump, set carefully and mount by appropriate bolting to firm foundation. Vibration eliminators can be used if desired. Check alignment of pump with power unit. Although these pumps are carefully aligned before shipment sometimes jarring in shipment causes need for readjustment. Check disc in flexible coupling for longitudinal play (approx. 1 1/26" is desirable). Tighten all assembly screws that may have loosened in shipment.

Remove port protectors and pour fuel oil or lubrication oil in pump ports.

Connect wiring to motor and starter after checking correspondence of their electrical characteristics with power source.

Start motor and check rotation of pump shaft which should correspond to arrow on pump housing. If rotation is wrong, interchange leads as indicated by instructions from motor supplier. If rotation is wrong, interchange leads as indicated by instructions from motor supplier. If rotation of pump must be changed for more convenient piping connections, then proceed as instructed under Changing Rotation and Pump Ports.

Be sure to protect all pumps with Kraissl Model 72 single and Duplex Strainers. A relief valve set at no higher than maximum design pressure should be provided to protect the pump, returning excess to supply tank.

It is preferable to test all piping, especially suction line piping, for freedom from leakage before starting. A slight air leak can cause loss in pump priming capacity.

When starting up a new installation, the pump may be noisy at first until air is evacuated from suction line. In the case of a heavy oil installation, noisy operation may occur until hot oil is recirculated and the oil in the tank is brought up to pumping temperature.

CHANGING PUMP ROTATION

If it is necessary to change the pump rotation and interchange outlet and inlet proceed as follows.

Remove the two cap screws (Part 15) on each side of the pump end plate. (Part 3).

Remove the half dog point set screw (Part 14) from the side of the pump marked outlet by use of an allen wrench and replace it in the corresponding position on the opposite side of the pump. Screw it down tightly against the seat at the base of the hole.

Replace the two cap screws (Part 15) .

Reverse the motor rotation by interchanging electrical leads as indicated by instructions from motor supplier.

Remove rotation arrow and outlet decalcomanios. Changing rotation interchanges pump outlet and inlet

LUBRICATION

The internal parts of the pump head are lubricated by the oil being pumped.. The ball bearing transmission unit of reduction drive pumps that supports the outboard shaft, pump pulley and flexible coupling contains a large reservoir for ball bearing grease. Access to reservoir is thru orifice with pipe plug closure and should be checked for supply adequacy at least once a heating season. The grease cup (Part 17) mounted in the gland (Part 8) should be recharged with grease as required.

ADJUSTING AND REPACKING THE STUFFING BOX

Model 60 Series Pumps are normally furnished with a stuffing box and an oil return system which vents the base of the stuffing box to the pump suction port. This arrangement minimizes shaft wear and keeps oil seepage along the shaft to the minimum necessary for adequate packing lubrication

If Pump begins to lose suction lift due to packing leak a slight tightening of stuffing box gland, (Part 8) by equal tightening of screws (Part 9) is usually sufficient to restore original characteristics unless it its necessary to repack.

Repack the stuffing box as required with soft braided graphited fiber packing. (Part 7) available in sets from the factory. Loosen the gland cap screws (Part 9) and slide gland (Part 8) along shaft away from stuffing box.

THE KRAISSL COMPANY
INCORPORATED
HACKENSACK NEW JERSEY
www.strainers.com

OPERATION AND MAINTENANCE INSTRUCTIONS

MODEL 60 SERIES PUMPS

A1921A

Current specifications for packing sizes and number of split rings per set are as follows:

Model	Packing Size Inches	No. of Rings
60-OE	3/16	4
60-1E	3/16	4
60-3E	3/16	4
60-5E	1/4	4
60-7E	1/4	4
60-9E	1/4	5
60-11E	1/4	5
60-13E	3/8	4
60-15E	3/8	4

Recharge grease cup and screw down on (Part 17) after repacking.

ACCESS TO PUMP MECHANISM AND PARTS REPLACEMENT

Kraissl oil pumps are designed for many hours of trouble free performance without the need for dismantling when properly applied. However, access to the inside of the pump head for the purpose of inspection and part replacement can be accomplished easily by the removal of the face plate (Part 2). Remove the cap screws (Part 18) and tap the shaft end lightly to bread the paint at the closure. Grasp the face plate and pull outward.

Thin gaskets (Part 13) are used at both face plate and end plate (Part 3) closures to Maintain the seal and pump clearances. It the one piece rotor and shaft (Part 4) becomes worn end-wise a gasket may be removed of the correct thickness to restore rotor end clearance.

To remove the rotor and shaft, first loosen and remove the flexible shaft coupling. Also loosen the gland cap screws (Part 9) and gland (Part 8). Grasp the rotor and remove through housing (Part 1) and face plate opening.

Replacement parts are normally stock items at our factory and can be purchased directly. Order by part name and pump model number, (Model and Division) and serial number.

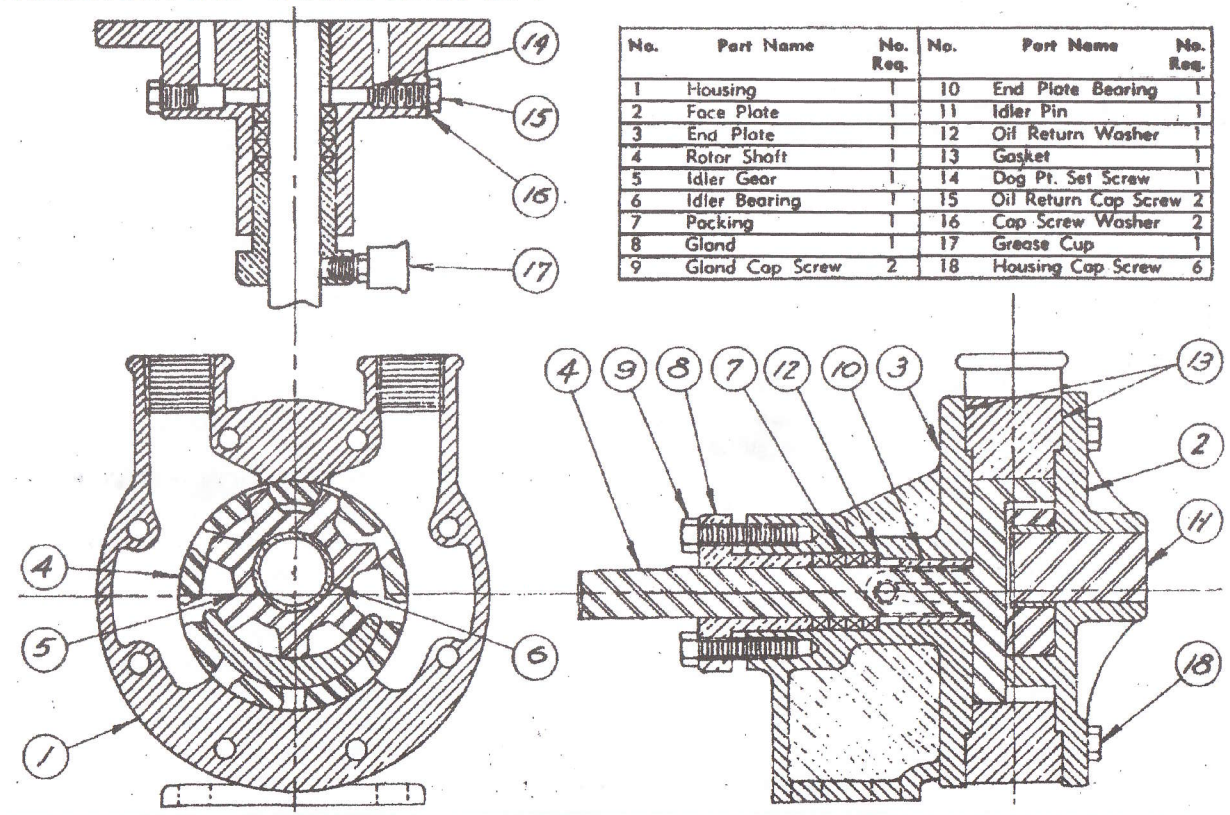
Pumps may also be returned transportation prepaid to our factory for estimate on repairs by our factory trained personnel.

TYPICAL CAUSES OF PUMP TROUBLE

1. Noisy operation.
   a. Oil viscosity greater than normal.
   b. Pump speed to fast or oil being handled
   c. Clogged Strainer.
   d. Section line too small in diameter.
   e. Suction lift too high.
   f. Air leak in suction line.
   g. Mechanical interference of parts or misalignment
   h. Extraneous matter in pump.
   i. Relief valve in return line chattering,
   j. Vibration of assembly or accessories
2. Pump fails to deliver liquid or less than normal capacity.
   a. Inadequate supply of oil poured into pump at start.
   b. Stuffing box needs adjustment or re packing.
   c. Air leak in suction line.
   d. Pump not turning
   c. Air leak in suction line.
   d. Pump not turning.
   e. V-Belt slipping or coupling disc worn.
   f. Cold oil or obstructed suction line. (See 1a to 1f above).
   g. No liquid in supply tank.
   h. Relief Valve by-passing liquid.
   i. Worn pump.

PARTS IDENTIFICATION LIST

WHEN PRECEDED BY MODEL AND DIVISION NUMBER, CONSTITUTE A SPECIFICATION IDENTIFICATION FOR THE PART INVOLVED. EXAMPLE: HOUSING FOR MODEL 60 DIVISION 5E PUMP WOULD BE 60-5E-1



No.	Part Name	No. Req.	No.	Part Name	No. Req.
1	Housing	1	10	End Plate Bearing	1
2	Face Plate	1	11	Idler Pin	1
3	End Plate	1	12	Oil Return Washer	1
4	Rotor Shaft	1	13	Gasket	1
5	Idler Gear	1	14	Dog Pt. Set Screw	1
6	Idler Bearing	1	15	Oil Return Cap Screw	2
7	Packing	1	16	Cap Screw Washer	2
8	Gland	1	17	Grease Cup	1
9	Gland Cap Screw	2	18	Housing Cap Screw	6