Made by



OPERATOR MANUAL VACUUM PUMP

Dear Customer:

In recognition of your purchase of a vacuum pump or vacuum pump system from the quality line of Airablo vacuum pumps, Airablo equipements would like to express our sincerest "thanks".

We are genuinely confident that your new Airablo vacuum pump will give you many years of dependable service and satisfaction. We would suggest that the information contained in this booklet will be of assistance in reaching this achievement.

Please read it! Refer to it often! Maintaining an up-to-date service record will help you get the most out of your investment.

Yours truly,

Airablo equipements

INSTALLATION INSTRUCTIONS:

Airablo installation procedures vary according to the size of vacuum pump required and the type of application the pump and its components are being adapted to.

Generally speaking, it is very important to have the drive lines or belts and belt pulleys properly aligned and to have the pump and its components adequately secured. Belt tension of approximately a one half inch drop should be maintained. Belt tension should be checked and adjusted at regular intervals. If belt tension is too tight, premature bearing failure could occur. If the belt tension is too loose, slippage may result.

LUBRICATION:

Each Airablo vacuum pump is extensively line tested at varying levels of vacuum to ensure a continuing high standard of quality and performance.

Although each vacuum pump has been generously lubricated during its line testing, additional lubrication or priming is recommended if pumps are to be stored for any length of time or when the pump has been installed and is being prepared for service. Although

common sense should always be use regarding adequate lubrication, an initial priming of one to two ounces of good quality oil is highly recommended. Upon manually rotating the rotor assembly, the oil will be uniformly dispersed throughout the entire housing to prevent vane breakage during start-up.

On systems that have an in-line oil filter assembly, the appropriate steps have to be taken to ensure that the filter cup is filled with fresh, clean oil. This procedure eliminates the possibility of oil starvation to the vacuum pump during the initial start-up phase.

SERIES

	LUBRICATION CHART	
SERIES	TO 15" H.G.	15"H.G TO MAX
151	8 to 15	15 to 25
202	8 to 15	15 to 25
302	8 to 15	15 to 25
402	8 to 15	15 to 25
403	8 to 15	15 to 25
550	10 to 20	20 to 30
750	15 to 25	25 to 35

Values indicate drops per minute per oil entry point.

Airablo vacuum/pressure pumps are lubricated to suit the application. Using manufacturer's recommended hydraulic or machine oil, lubrication achieved by metering the oil flow to each oil entry point. The oil flows through the oil entry points, through the bearings and onto all interior surfaces to lubricate the sliding vanes.

Oil flows must not be lowered below manufaturers specifications, however, it is quite acceptable, and in many cases desirable to increase the oil flow values.

If an oil separator (reclaimer) and oil filter is being utilized to further extend the operating life of your "AIRABLO" vacuum pump, it is advisable to service the above on a regular basis. Servicing includes the weekly drainage of all moisture buildup, the occasional wiping and removal any contaminant buildup on the inner side walls and anunal flushing of the reclaimer assembly. To flush the reclaimer should be removed from the pump. High pressure water and detergent provide a very good flushing agent.

It should be noted that the reclaimer is designed to be a highly efficient oil separator and muffler unit, but it is not, or should it be used as an oil supply reservoir. Ideally, two independent rerservoirs or carboys should be used. One carboy as a fresh oil supply and the other carboy as an oil return reservoir. The return oil once reclaimed will flow by gravity from the oil reclaimer down into the return oil reservoir. This oil, when accumulated can then be strained into the fresh oil reservoir by using a clean cheese cloth to act as a strainer.

The woven cloth oil filter units are to be inspected regularly, possibly every two months. The filters can be washed or replaced as required. Before reassembly, the filter cup must be filled with clean oil. Filter oil seals are to be re-installed during each service and are to be replaced as required to maintain an airtight enclosure. After servicing, all sight valves are to be inspected to ensure an adequate oil supply to the bearings and vanes.

When using a highly recommended in-line vacuum filter, the replacement filter units should be inspected frequently. The washable, replaceable screens should be cleaned of all foreign material or replaced as required. Moisture must drain freely.

FLUSHING

Every system should either have material traps or inlet filtration systems to screen out all foreign material. Sluggish vanes, excessive wear and subsequent damage may occur if foreign material is allowed to enter and remain within the pump. To flush out any contaminants, stop the pump and pour one cup of flushing oil or an oil and diesel fuel mixture into the pump inlet. Resume operation and stand clear of pump exhaust. Several more cups of fluid can be poured into the pump inlet . Resume operation and stand clear of pump exhaust. Several more cups of fluid can be poured into the pump inlet while the pump is revolving. (*CAUTION*- Do not use gasoline)

Never operate pump when it is full of ice. Special care must be taken to ensure that water does not freeze in the pump. If freezing is suspected, completely unthaw prior to operation or remove rear endplate to verify.

As with the initial start-up, always add one to two ounces of oil to the vacuum pump after flushing. Rotate the rotor assembly manually to disipate oil uniformly throughout the housing to prevent the possibility of vane breakage during start-up.

CHECKING VANES:

Vane inspection is a vital part of trouble-free operation and long pump life.

Vanes are precision machined and individually inspected prior to assembly or shipment.

All vanes should slide freely within the rotor slot and under normal, clean conditions will last thousands of hours with minimal wear.

While inspecting the vanes, it is always best to inspect and clean the housing rotor and rotor slots.

The housing bore should be relatively smooth and unusual surface roughness is evidence of vane knocking due to:

- 1) foreign material in the pump
- 2) insufficient or lack of flushing
- 3) insufficient lubrication
- 4) drive line misalignment
- 5) inadequately secured pump or pump mounting components

CFM AT 15"HG VS RPM

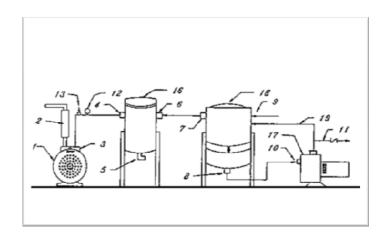
RPM	OUTLET	1750	*1323	1140	*1035	*682
1 ½hp 151	1"					15
3hp 151	1"	33	30			
5hp 202	2"			60	55	
7 ½hp 302	2"			80	72	
10hp 402	2"			100	90	
10hp 403	3"			105	96	

^{*}AT THESE SPEEDS, THE PUMPS CAN WORK AT 20"HG AND THEIR CAPACITY CAN VARY FROM 5 TO 10% DEPENDING ON THEIR CONDITION.

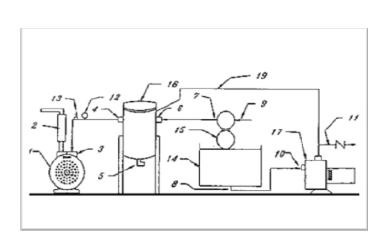
N.B.: THE OPERATING OF A VACUUM PUMP AT MORE THAN 15"HG WILL INDUCE AN INCREASE IN THE AMPERAGE OF THE MOTOR. THAT IS WHY AIRABLO REDUCED THE SPEED OF THEIR PUMPS FOR THE OPERATING BETWEEN 20"HG AND 22"HG FOR THE MAPLEGROVE INDUSTRY.

The installation of a pumping station in a maple grove must be done respecting certain rules; the vacuum pump and water pump must be calibrated according to the needs and configuration of the grove. Do not hesitate to call on our experts in order to make the correct choice.

The installation requires usually four components that are the vacuum pump, the humidity trap, the releaser and the water pump. The vacuum pump (1) sucks up from the



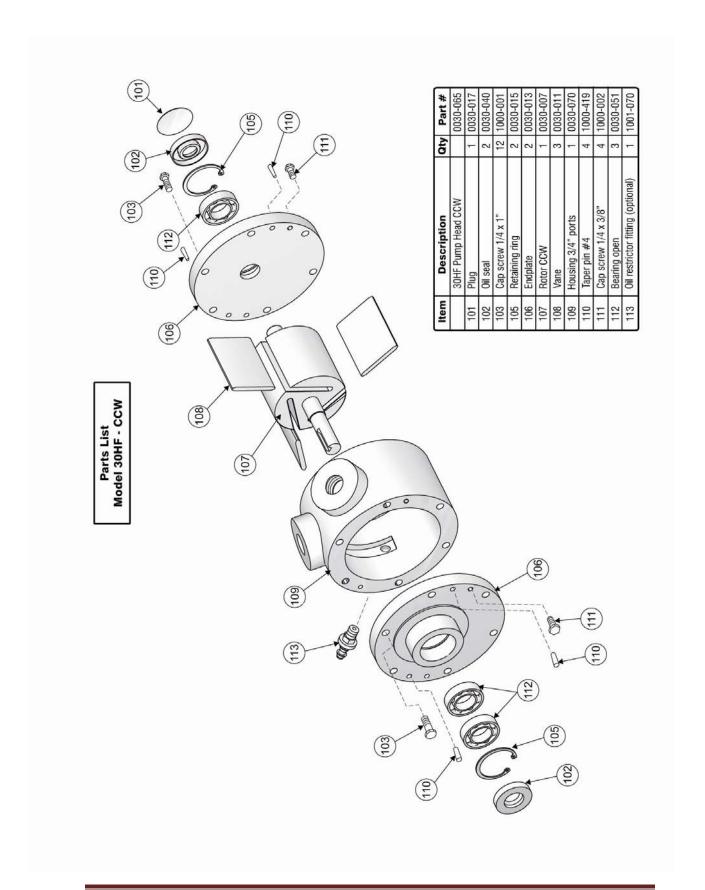
humidity trap (16) and evacuates the stale air by the muffler(2)

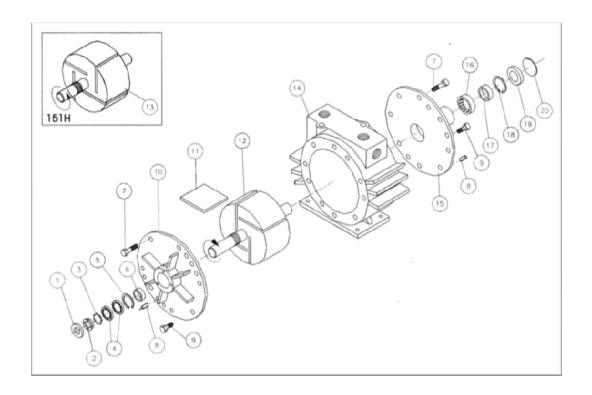


A regulator (13) and a vacuum indicator (12) help to make the adjustments for the desired vacuum. The aspiration deriving from the vacuum pump(1) is directed toward the humidity trap (16) which separates the air and the drops of water which are eliminated at the end of each utilisation cycle by the drain (5). The vacuum transmitted to the belly releaser (18) by the line 6&7, the vacuum sucks up the contents of your line (9), the water is aspirated by the water pump (17) by way of the releaser(8). A feeding line (19) of the pump goes back to the releaser; this line

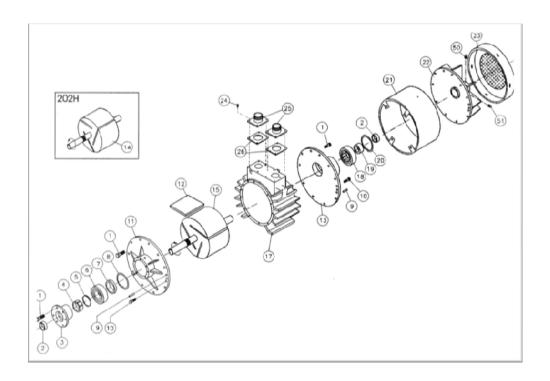
is usually made of 1/8-inch pipe and permits the auto feeding of the water pump(17) when the vacuum pump (1) starts. The water pump (17) is usually controlled by a system of floats or electrodes in order to empty the releaser (18) as required. The water pump (17) evacuates the water towards the reserved basins via line (11) which is equipped with a check valve.

The usual installation of a water pump(1) and a mechanical belley releaser (15) is similar to the system described previously except for the releaser (15). The draining of a mechanical releaser is controlled by a system of floats; water is stored directly in the reserve tank.

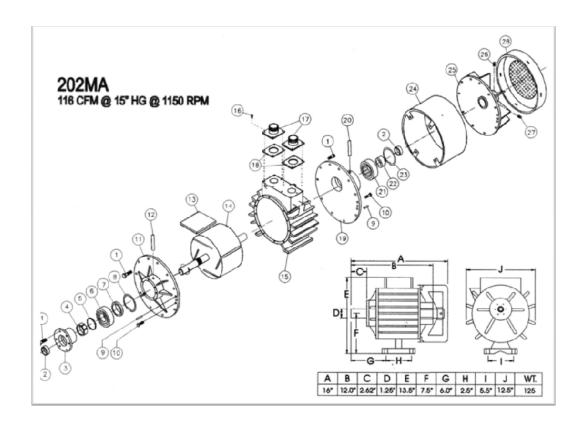




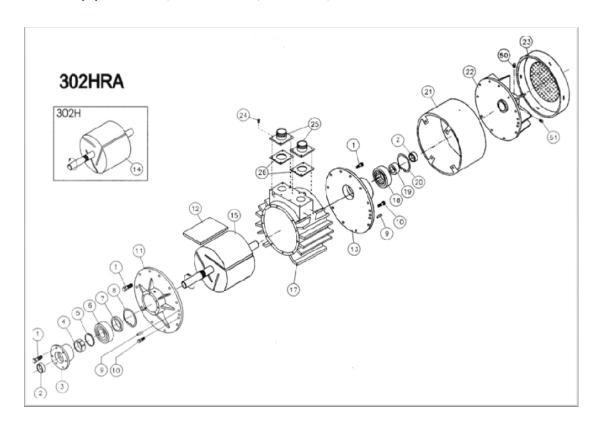
ITEM	NUMBER	DESCRIPTION
1	1510014	OIL SEAL FRONT
2	1510015	LOCKNUT
3	1510016	LOCKWASHER
4	1510017	BALL BEARING
5	1510018	RETAINING RING INTERNAL
6	1510019	SPACER RING
7	1000001	CAP SCREW 1/4IN. * 1IN.
8	1000419	TAPER PIN
9	1000002	CAP SCREW 1/4IN. * 1/2IN.
10	1510008	ENDPLATE (DRIVE)
11	1510012	VANE (151 H/HR)
12	1510007	ROTOR-151HR (CW)
13	1510006	ROTOR-151H (CCW)
14	1510005	HOUSING
15	1510009	ENDPLATE (REAR)
16	1510020	ROLLER BEARING
17	1510021	BEARING RACE
18	1510022	RETAINING RING EXTERNAL
19	1510023	OIL SEAL
20	1000400	EXPANSION PLUG



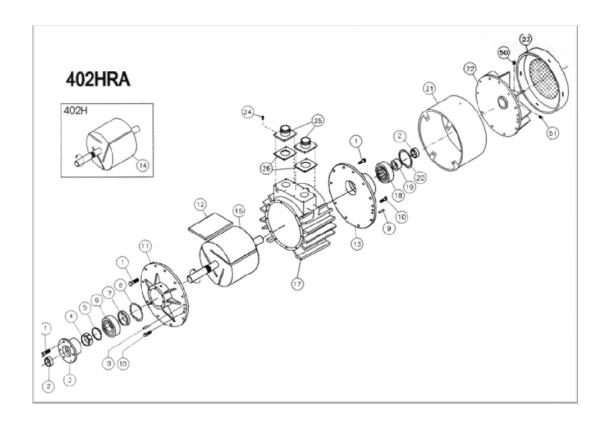
ITEM	NUMBER	DESCRIPTION
		DECOMM FION
1	1000001	CAP SCREW 1/4IN. * 1IN.
2	3020010	OIL SEAL FRONT & REAR
3	3020023	BEARING CAP
4	3020022	LOCKNUT
5	3020021	LOCKWASHER
6	3020020	BALL BEARING
7	3020018	SPACER RING
8	3020019	RETAINING RING
9	1000003	TAPER PIN
10	1000002	CAP SCREW 1/4IN. * 1/2IN.
11	3020011	ENDPLATE (FRONT)
12	2020012	VANE (202 H/HR)
13	3020006	ENDPLATE (REAR)
14	2020010	ROTOR (202H CCW)
15	2020011	ROTOR (202HR CW)
17	2020003	HOUSING (202 SERIES)
18	3020008	ROLLER BEARING
19	3030009	BEARING RACE
20	3020012	RETAINING RING EXTERNAL
21	3020013	FAN SHROUD
22	3020025	FAN
23	3020014	FAN SHROUD COVER
24	1000290	CAP SCREW 5/16IN. * 3/4IN.
25	01280088	ADAPTOR FOR VACUUM PUMP 2IN.(INLET) (T)
25	01280124	ADAPTOR FOR VACUUM PUMP 2IN.(OUTLET)
26	1000035	FLANGE ADAPTER 2" GASKET
50	1000228	SET SCREW 1/4IN. * 1/2IN.
51	1000229	SET SCREW 1/4IN. * 1/4IN.



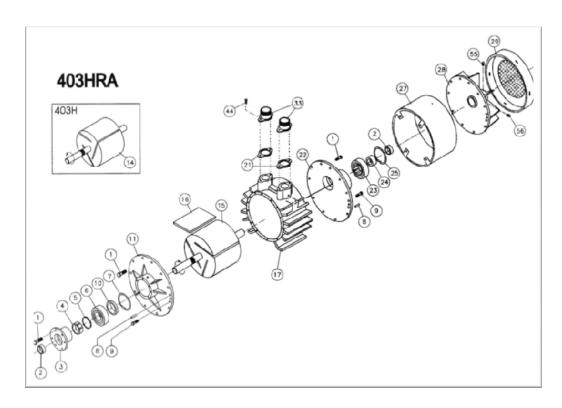
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18 1000035 FLANGE ADAPTER 2" GASKET 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.		1000290	CAP SCREW 5/16IN. * 3/4IN.
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28 3020014 FAN SHROUD COVER		1000229	SET SCREW 1/4IN. * 1/4IN.
	28	3020014	FAN SHROUD COVER



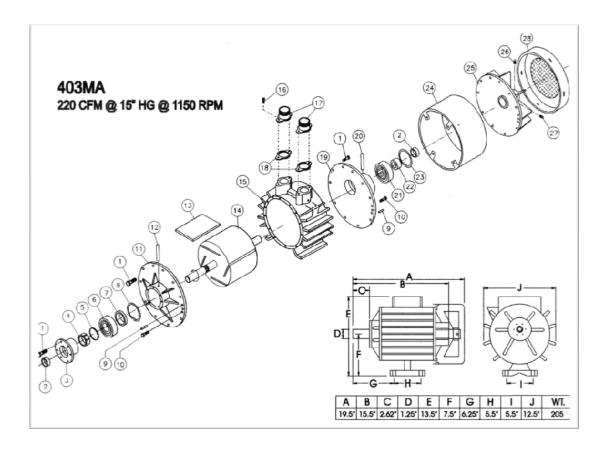
ITEM	NUMBER	DESCRIPTION
1	1000001	CAP SCREW 1/4IN. * 1IN.
2	3020010	OIL SEAL FRONT & REAR
3	3020023	BEARING CAP
4	3020022	LOCKNUT
5	3020021	LOCKWASHER
6	3020020	BALL BEARING
7	3020018	SPACER RING
8	3020019	RETAINING RING
9	1000003	TAPER PIN
10	1000002	CAP SCREW 1/4IN. * 1/2IN.
11	3020011	ENDPLATE (FRONT)
12	3020007	VANE (302 H/HR)
13	3020006	ENDPLATE (REAR)
14	3020004	ROTOR (302H CCW)
15	3020005	ROTOR (302HR CW)
_17	3020003	HOUSING 302
18	3020008	ROLLER BEARING
19	3030009	BEARING RACE
20	3020012	RETAINING RING EXTERNAL
21	3020013	FAN SHROUD
22	3020025	FAN
23	3020014	FAN SHROUD COVER
24	1000290	CAP SCREW 5/16IN. * 3/4IN.
25	01280088	ADAPTOR FOR VACUUM PUMP 2IN.(INLET) (T)
25	01280124	ADAPTOR FOR VACUUM PUMP 2IN.(OUTLET)
26	1000035	FLANGE ADAPTER 2" GASKET
50	1000228	SET SCREW 1/4IN. * 1/2IN.
51	1000229	SET SCREW 1/4IN. * 1/4IN.



ITEM	NUMBER	DESCRIPTION
1	1000001	CAP SCREW 1/4IN. * 1IN.
2	3020010	OIL SEAL FRONT & REAR
3	3020023	BEARING CAP
4	3020022	LOCKNUT
5	3020021	LOCKWASHER
6	3020020	BALL BEARING
7	3020018	SPACER RING
8	3020019	RETAINING RING
9	1000003	TAPER PIN
10	1000002	CAP SCREW 1/4IN. * 1/2IN.
11	3020011	ENDPLATE (FRONT)
12	4000004	VANE (400 SERIES H/HR)
13	3020006	ENDPLATE (REAR)
14	4030007	ROTOR (402H.403H CCM)
15	4030008	ROTOR (402HR,403HR CW)
17	4000006	HOUSING (SERIE 400 A 402)
18	3020008	ROLLER BEARING
19	3030009	BEARING RACE
20	3020012	RETAINING RING EXTERNAL
21	3020013	FAN SHROUD
22	3020025	FAN
23	3020014	FAN SHROUD COVER
24	1000290	CAP SCREW 5/16IN. * 3/4IN.
25	01280088	ADAPTOR FOR VACUUM PUMP 2IN.(INLET) (T)
25	01280124	ADAPTOR FOR VACUUM PUMP 2IN.(OUTLET)
26	1000035	FLANGE ADAPTER 2" GASKET
50	1000228	SET SCREW 1/4IN. * 1/2IN.
51	1000229	SET SCREW 1/4IN. * 1/4IN.

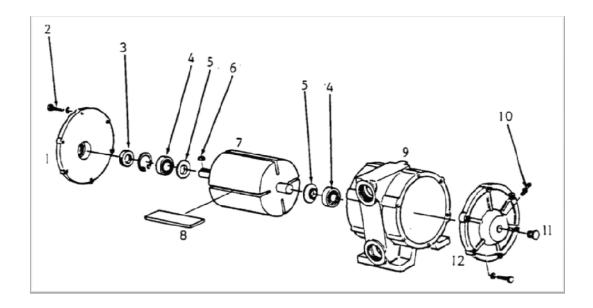


ITEM	NUMBER	DESCRIPTION
1	1000001	CAP SCREW 1/4IN. * 1IN.
2	3020010	OIL SEAL FRONT & REAR
3	3020023	BEARING CAP
4	3020022	LOCKNUT
5	3020021	LOCKWASHER
6	3020020	BALL BEARING
7	3020019	RETAINING RING
8	1000003	TAPER PIN
9	1000002	CAP SCREW 1/4IN. * 1/2IN.
10	3020018	SPACER RING
11	3020011	ENDPLATE (FRONT)
14	4030007	ROTOR (402H,403H CCM)
15	4030008	ROTOR (402HR,403HR CW)
_16	4000004	VANE (400 SERIES H/HR)
17	4030005	HOUSING (SERIE 403)
21	1000056	COMPRESSOR GASKET 403
22	3020006	ENDPLATE (REAR)
23	3020008	ROLLER BEARING
24	3030009	BEARING RACE
25	3020012	RETAINING RING EXTERNAL
27	3020013	FAN SHROUD
28	3020025	FAN
29	3020014	FAN SHROUD COVER
33	01280089	ADAPTOR FOR VACUUM PUMP 3IN.(INLET)(T)
33	01280125	ADAPTOR FOR VACUUM PUMP 3IN.(OUTLET)
44	1000252	CAP SCREW 1/2 IN. * 1IN.
55	1000228	SET SCREW 1/4IN. * 1/2IN.
_56	1000229	SET SCREW 1/4IN. * 1/4IN.

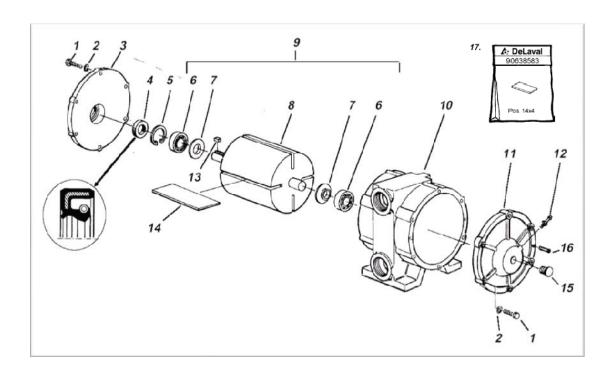


1 1000001 CAP SCREW 1/4IN. * 1IN. 2 3020010 OIL SEAL FRONT & REAR 3 3020023 BEARING CAP 4 3020022 LOCKNUT 5 3020021 LOCKWASHER 6 3020020 BALL BEARING 7 3020018 SPACER RING 8 3020019 RETAINING RING 9 1000003 TAPER PIN 10 1000002 CAP SCREW 1/4IN. * 1/2IN. 11 3020011 ENDPLATE (FRONT) 12 1000075 FRONT EXTENSION 13 4031005 VANE FOR 403 PUMP WITH 4 VANES 14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 SCREW 1/4IN. * 1/2IN. 26 1000229 SET SCREW 1/4IN. * 1/4IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN. 28 3020014 EAN SHROUD 29 3020029 SET SCREW 1/4IN. * 1/4IN.	ITEM	NUMBER	DESCRIPTION
2 3020010 OIL SEAL FRONT & REAR 3 3020023 BEARING CAP 4 3020021 LOCKNUT 5 3020021 LOCKWASHER 6 3020020 BALL BEARING 7 3020018 SPACER RING 8 3020019 RETAINING RING 9 1000003 TAPER PIN 10 1000002 CAP SCREW 1/4IN. * 1/2IN. 11 3020011 ENDPLATE (FRONT) 12 1000075 FRONT EXTENSION 13 4031005 VANE FOR 403 PUMP WITH 4 VANES 14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * IIN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 302006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.			
3 3020023 BEARING CAP 4 3020022 LOCKNUT 5 3020021 LOCKWASHER 6 3020020 BALL BEARING 7 3020018 SPACER RING 8 3020019 RETAINING RING 9 1000003 TAPER PIN 10 1000002 CAP SCREW 1/4IN. * 1/2IN. 11 3020011 ENDPLATE (FRONT) 12 1000075 FRONT EXTENSION 13 4031005 VANE FOR 403 PUMP WITH 4 VANES 14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 3020025 FAN 26 1000229 SET SCREW 1/4IN. * 1/2IN. 27 100029 SET SCREW 1/4IN. * 1/4IN.	1	1000001	CAP SCREW 1/4IN. * 1IN.
4 3020022 LOCKNUT 5 3020021 LOCKWASHER 6 3020020 BALL BEARING 7 3020018 SPACER RING 8 3020019 RETAINING RING 9 1000003 TAPER PIN 10 1000002 CAP SCREW 1/4IN. * 1/2IN. 11 3020011 ENDPLATE (FRONT) 12 1000075 FRONT EXTENSION 13 4031005 VANE FOR 403 PUMP WITH 4 VANES 14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 302025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 100029 SET SCREW 1/4IN. * 1/4IN.	2	3020010	OIL SEAL FRONT & REAR
5 3020021 LOCKWASHER 6 3020020 BALL BEARING 7 3020018 SPACER RING 8 3020019 RETAINING RING 9 1000003 TAPER PIN 10 1000002 CAP SCREW 1/4IN. * 1/2IN. 11 3020011 ENDPLATE (FRONT) 12 1000075 FRONT EXTENSION 13 4031005 VANE FOR 403 PUMP WITH 4 VANES 14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3022003 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/4IN. 27	3	3020023	BEARING CAP
6 3020020 BALL BEARING 7 3020018 SPACER RING 8 3020019 RETAINING RING 9 1000003 TAPER PIN 10 1000002 CAP SCREW 1/4IN. * 1/2IN. 11 3020011 ENDPLATE (FRONT) 12 1000075 FRONT EXTENSION 13 4031005 VANE FOR 403 PUMP WITH 4 VANES 14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/4IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	4	3020022	LOCKNUT
7 3020018 SPACER RING 8 3020019 RETAINING RING 9 1000003 TAPER PIN 10 1000002 CAP SCREW 1/4IN. * 1/2IN. 11 3020011 ENDPLATE (FRONT) 12 1000075 FRONT EXTENSION 13 4031005 VANE FOR 403 PUMP WITH 4 VANES 14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.		3020021	LOCKWASHER
8 3020019 RETAINING RING 9 1000003 TAPER PIN 10 1000002 CAP SCREW 1/4IN. * 1/2IN. 11 3020011 ENDPLATE (FRONT) 12 1000075 FRONT EXTENSION 13 4031005 VANE FOR 403 PUMP WITH 4 VANES 14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 302003 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/4IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.		3020020	BALL BEARING
9 1000003 TAPER PIN 10 1000002 CAP SCREW 1/4IN. * 1/2IN. 11 3020011 ENDPLATE (FRONT) 12 1000075 FRONT EXTENSION 13 4031005 VANE FOR 403 PUMP WITH 4 VANES 14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	7	3020018	SPACER RING
10 1000002 CAP SCREW 1/4IN. * 1/2IN. 11 3020011 ENDPLATE (FRONT) 12 1000075 FRONT EXTENSION 13 4031005 VANE FOR 403 PUMP WITH 4 VANES 14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 302003 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.		3020019	RETAINING RING
11 3020011 ENDPLATE (FRONT) 12 1000075 FRONT EXTENSION 13 4031005 VANE FOR 403 PUMP WITH 4 VANES 14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.		1000003	
12 1000075 FRONT EXTENSION 13 4031005 VANE FOR 403 PUMP WITH 4 VANES 14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 302003 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	10	1000002	CAP SCREW 1/4IN. * 1/2IN.
13 4031005 VANE FOR 403 PUMP WITH 4 VANES 14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 302003 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	11	3020011	ENDPLATE (FRONT)
14 4031004 15 4030005 HOUSING (SERIE 403) 16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 302003 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	12	1000075	FRONT EXTENSION
15	13	4031005	VANE FOR 403 PUMP WITH 4 VANES
16 1000252 CAP SCREW 1/2 IN. * 1IN. 17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	_14	4031004	
17 1000179 FLANGE ADAPTER 3IN. MNPT 18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	15	4030005	HOUSING (SERIE 403)
18 1000056 COMPRESSOR GASKET 403 19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 302003 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.		1000252	CAP SCREW 1/2 IN. * 1IN.
19 3020006 ENDPLATE (REAR) 20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	17	1000179	FLANGE ADAPTER 3IN. MNPT
20 1000143 REAR EXTENSION 21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	18	1000056	COMPRESSOR GASKET 403
21 3020008 ROLLER BEARING 22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	19	3020006	ENDPLATE (REAR)
22 3030009 BEARING RACE 23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	20	1000143	REAR EXTENSION
23 3020012 RETAINING RING EXTERNAL 24 3020013 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	21	3020008	ROLLER BEARING
24 3020013 FAN SHROUD 25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	22	3030009	BEARING RACE
25 3020025 FAN 26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	23	3020012	RETAINING RING EXTERNAL
26 1000228 SET SCREW 1/4IN. * 1/2IN. 27 1000229 SET SCREW 1/4IN. * 1/4IN.	24	3020013	FAN SHROUD
27 1000229 SET SCREW 1/4IN. * 1/4IN.	25	3020025	FAN
	26	1000228	SET SCREW 1/4IN. * 1/2IN.
28 3020014 EAN SHROUD COVER	27	1000229	SET SCREW 1/4IN. * 1/4IN.
ZO SUZUUTA TAN STINOOD COVER	28	3020014	FAN SHROUD COVER

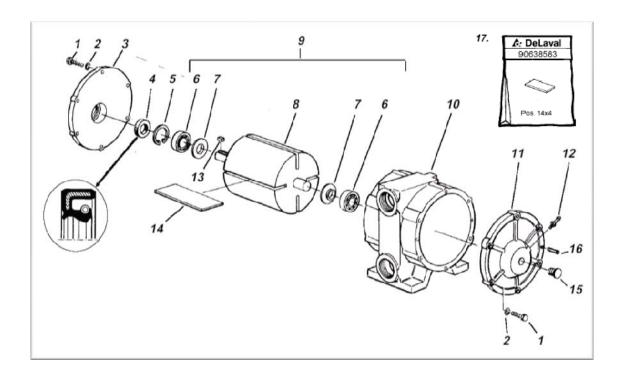
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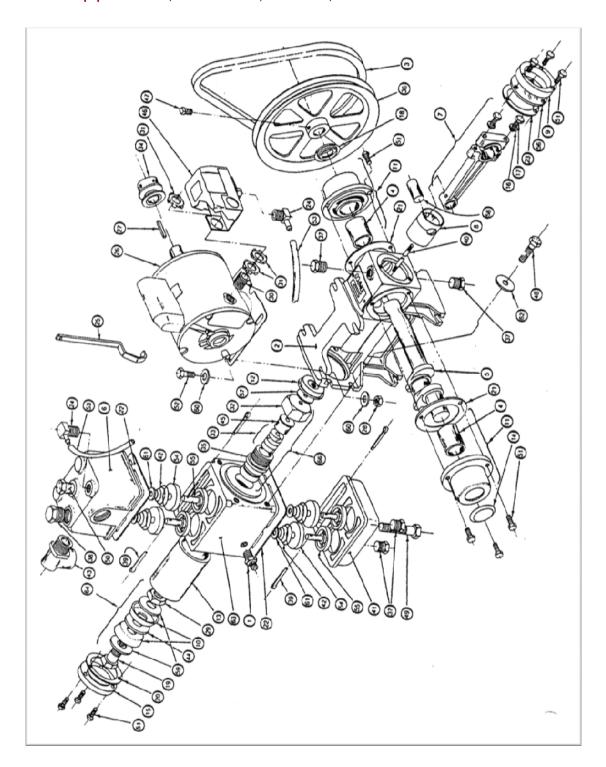
ITEM	NUMBER	DESCRIPTION
1	95838702~*	NOT AVAILABLE
2	785100030*	SCREW END CAP
3	98841401	
4	5544	BALL BEARING
5	95839101	BEARING COLLAR
6	52115804	KEY
7	95839781~*	NOT AVAILABLE
8	90638582~	
9		NOT AVAILABLE
10	95839301	CONNECTOR
11	96151701	PLUG
12	95838603~	NOT AVAILABLE
NS	99685480	



ITEM	NUMBER	DESCRIPTION	PRICE
1	22104025*	CAP SCREW	
2	41456*	WASHER	
3	96770102	NOT AVAILABLE	
4	98841402		
5	25161	RETAINER	
6	01300517	BEARING 30MM ID X 62MM OD X 16MM	
7	96671501	BEARING FLANGE	
8		NOT AVAILABLE	
9	96749783		
10		NOT AVAILABLE	
11	96770202*	NOT AVAILABLE	
12	95839301	CONNECTOR	
13	65599	KEY	
14		NOT AVAILABLE	
15	96151701	PLUG	
16		NOT AVAILABLE	
17	90638583		
* NOT A	VAILABLE FROM TI	HE MANUFACTER	_

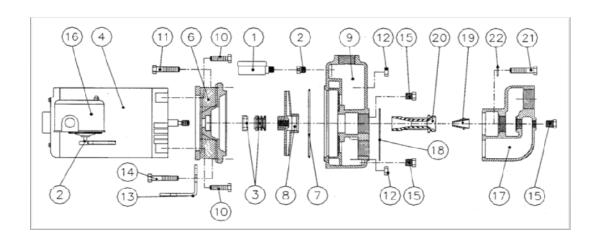


ITEM	NUMBER	DESCRIPTION	PRICE		
·			_		
1	22104025*	CAP SCREW			
2	41456*	WASHER			
3	830537880*	NOT AVAILABLE			
4	96672001				
5	25161	RETAINER			
6	01300517	BEARING 30MM ID X 62MM OD X 16MM			
7	96671501	BEARING FLANGE			
8	830537881	NOT AVAILABLE			
9		NOT AVAILABLE			
10	830537880*	NOT AVAILABLE			
11	96770202*	NOT AVAILABLE			
12	95839301	CONNECTOR			
13	52115804	KEY			
_14		NOT AVAILABLE			
15	96151701	PLUG			
16		NOT AVAILABLE			
17	90638584*				
* NOT A	* NOT AVAILABLE FROM THE MANUFACTER				



ITEM	NUMÉRO	DECRIPTION
1	0230070	AIR VALVE 1/4IN. NPT
2	5220300	PUMP BODY
3	5220301	V-BELT (4L-360)
4	5220302	CRANKSHAFT BUSHING
5	5220800	CRANKSHAFT
6	5220801	AIR CHAMBER
7	5220803	CONNECTING ROD
8	5220804	CROSS HEAD
9	5220805	CRANKCASE COVER
10	5220808	CUP LEATHER-S-600
11	5220809	CRANKSHAFT BEARING ASS'Y
12	5220812	CROSS HD GUIDE COVER CYLINDER-S-600
13 14	5220817 5220818	BEARING PLUG (CLOSE)
15	5220819	WATER BOX HEAD COVER
16	5220826	LOCK WASHER 1/4IN.
17	5220827	HEX HEAD BOLT
18	5220828	BEARING PLUG (OPEN)
19	5222001	PISTON FOLLOWER
20	5222200	WATER BOX HEAD COVER GASKET
21	5222202	CRANKSHAFT BEARING GASKET
22	5222203	WATER BOX GASKET
23	5222205	CRANKSHAFT COVER GASKET
24	0230570	ELBOW BRASS 1/4IN.NPT
25	5222800	PACKING BOX NUT KEY
26 28	5223001 5223101	MOTOR 1/2 HP WITH CAPACITOR S-600 HEX NUT 1/4IN. 3/4 NC
29	5223101	PISTON JAM NUT
30	0240759	NIPPLE 1/2 X CLOSED (BLACK)
31	5223105	ELECT LOCKNUT 1/2IN.NPT
32	5223501	PACKING BOX NUT BRASS
33	5223502	PACKING KIT
34	5223505	MOTOR PULLEY 2IN. DIA. S-600
35	5223506	PACKING BOX
36	5223509	PUMP PULLEY
37	5223510	PIPE PLUG 1/4IN. NPT
38	5223511	PRIMING PLUG 1/2IN. BRASS NPT
<u>39</u> 40	5223512 5224000	BRASS CUTTER PIN PISTON ROD
41	5224200	SUCTION CHAMBER
42	5224201	VALVE SPRING
43	7110030	SAFETY VALVE RV-50/100 PSI
44	5224208	PISTON SPACER S-600
45	5224210	PACKING BOX SLEEVE
46	6610150	PRESSURE SWITCH
48	5224215	HEX HEAD BOLT
49	5224216	HEX HEAD BOLT
50	5224217	HEX HEAD BOLT
51	5224218	HEX HEAD BOLT
52 53	5224219	HEX HEAD BOLT
54	2420500 5225100	POLYETHYLENE TUBE MV-4040 NEOPRENE VALVE DISC
55	5225100	VALVE SEAT SUCTION CHAMBER
55	5225101	VALVE SEAT AIR CHAMBER
56	5225105	CRANKCASE VIEWER
57	5225303	ROD WIPER
58	5225305	WRIST PIN
59	5225308	PISTON WASHER S-600
60	5225311	PLANE WASHER
61	5225312	VALVE SPRING WASHER 1/4IN.
62	5225313	PLANE WASHER WATER POY ASSIVE CO.
63	5225802	WATER BOX ASS'Y S-600
64	5225502	PISTON CUP ASS'Y S-600
65 66	5222803 5223515	REPAIR KIT S-600 PACKING BOX ASS'Y
00	3223313	I ACKING BOX A33 I

OJ CENTRIFUGAL PUMPS



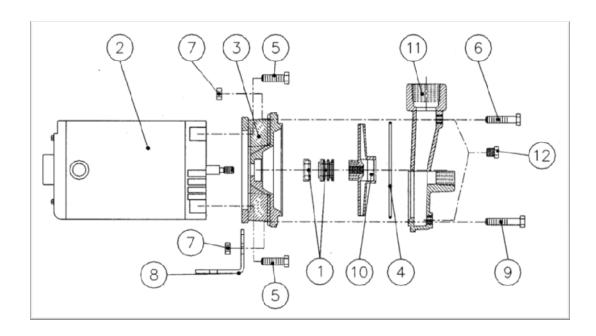
	5130060 OJ-100 BRASS IMPELLER PUMP NO MOTOR						
	01280023	HYDROVAC PUMP FOOT					
	01280397	INDUSTRIAL HYDROVAC PUMP FOOT					
	01280247	OJ PUMP WITH COMMERCIAL FOOT AND INJECTOR					
	01280398	OJ PUMP WITH INDUSTRIAL FOOT AND INJECTOR					
ITEM	NUMBER	DESCRIPTION					
1	0230100						
2	0230570	ELBOW BRASS 1/4IN.NPT					
3	1240120	5/8IN. SHAFT SEAL ASSEMBLY					
4	01020034	JET MOTOR THREADED SHAFT 1 1/2HP 115/230 ODP MARA					
5	2420500	POLYETHYLENE TUBE MV-4040					
6	5150010	MOTOR ADAPTER BRACKET					
7	5150020	"O" RING 5 1/2IN. * 5 1/4IN. * 1/8IN.					
8	5170104	IMPELLER-BRONZE 5.125"					
9	5150050	OJ PUMP CASE					
_10	5150065	PLATED HEX BOLT 3/8"-16X3/4"					
11	5150075	PLATED HEX BOLT 3/8"-16X1 3/4"					
12	5150080	3/8IN. HEX NUT					
13	5150090	PUMP MOUNTING BASE					
14	5150100	3/8IN. * 1 3/4IN. HEX HEAD BOLT					
15	5223510	PIPE PLUG 1/4IN. NPT					
16	6610100	PRESSURE SWITCH					
17	5150109	BARREL EJECTOR/SURFACE					
18	5150120	GASKET					
19	5150135	14/64IN. NOZZLE					
19	5150140	16/84IN. NOZZLE					
19	5150141	NOZZLE #(17/64")					
20	5150150	VENTURI TUBE 24/64IN.					
20	5150151	VENTURI TUBE (28/64")					
20	5150152	VENTURI TUBE 32/64IN.					
20	5150153	VENTURI TUBE (34/64")					
20	5150154	VENTURI TUBE 36/64IN.					
20	5150156	VENTURI TUBE 38/64IN.					
21	5224215	HEX HEAD BOLT					
22	5225313	PLANE WASHER					
23	5150051						
Kit	5130185	HIGH PRESSURE OJ PUMP INJECTOR					

VACUUM HG

			0	10	15	20	25		
OJ PUMP		CAPACITY GALLONS U.S./HOURS							
3450 RPM		0	1430	1225	1150	875	650		
	PSI	20	1430	1215	1130	870	650		
		40	1260	990	940	780	595		
		60	504	396	376	312	238		
		65	0	0	0	0	0		
		VACUUM HG							
			0	10	15	20	25		
		CAPACITY GALLONS U.S./HOURS							
OJ PUMP		0	1500	1350	1200	900	675		
OJ POWIP			1300	1330	1200	300	0/3		
4220 RPM	PSI	20	1500	1350	1200	900	675		
		40	1380	1200	1055	900	675		
		60	900	800	720	600	0		
		80	300	200	200	0	0		
				VACUUM HG					
			0	10	15	20	25		
		CAPACITY GALLONS U.S./HOURS							
		0	1500	1350	1200	900	675		
OJ PUMP		20	1500	1350	1200	900	675		
5250 RPM		40	1380	1200	1055	900	675		
	PSI	60	1380	1200	1055	900	675		
		80	1380	1200	1055	900	600		
		100	1200	1100	1000	850	600		
		422	000	000	700	600	_		
		120	900	800	720	600	0		
		140	300	200	200	0	0		

N.B.: THE MAXIMUM PRESSURE MAY REACH 190PSI BY REPLACING THE ACTUAL INJECTOR NOZZLE BY THE 14/64" ONE-PIECE # 5150135 AND THE VENTURI 24/64" 5150150 (SEE PAGE 28). THE DEBIT COULD REDUCE THE ABOVE PRESENTED CHART (CHART NOT AVAILABLE)

OC/OCB CENTRIFUGAL PUMPS



	516240	OCB BRASS IMPELLER PUMP NO MOTOR
	01280023	HYDROVAC PUMP FOOT
	01280397	INDUSTRIAL HYDROVAC PUMP FOOT
ITEM	NUMBER	DESCRIPTION
1	1240130	PUMP COUPLING 2000V (HIGH TEMPERATURE)
2	01020034	JET MOTOR THREADED SHAFT 1 1/2HP 115/230 ODP MARA
3	5150010	MOTOR ADAPTER BRACKET
4	5150020	"O" RING 5 1/2IN. * 5 1/4IN. * 1/8IN.
5	5150065	PLATED HEX BOLT 3/8"-16X3/4"
6	5150075	PLATED HEX BOLT 3/8"-16X1 3/4"
7	5150080	3/8IN. HEX NUT
8	5150090	PUMP MOUNTING BASE
9	5150100	3/8IN. * 1 3/4IN. HEX HEAD BOLT
10	5170104	IMPELLER-BRONZE 5.125"
11	5170060	PUMP CASE
12	5223510	PIPE PLUG 1/4IN. NPT

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