

MET PRO CORPORATION
Sethco Division

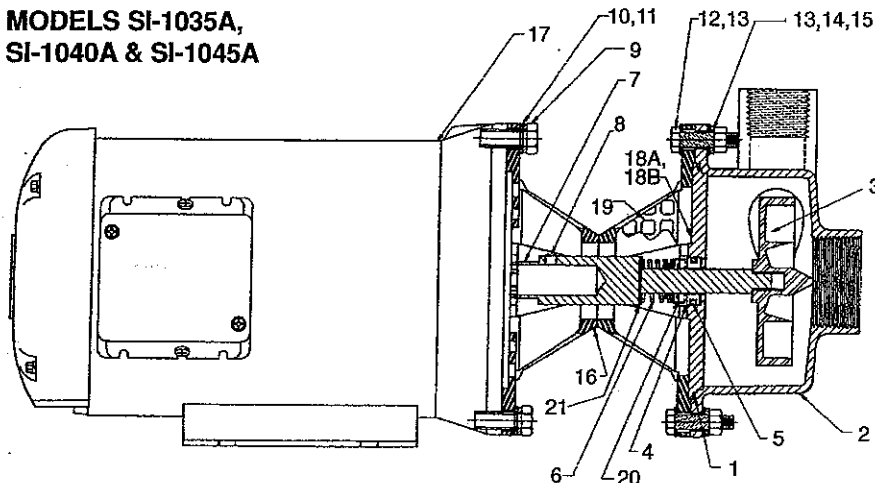
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**CORROSION RESISTANT
 316 STAINLESS STEEL
 HORIZONTAL PUMPS**

PARTS LIST

November 1, 1998

**MODELS SI-1035A,
 SI-1040A & SI-1045A**



**ALWAYS SPECIFY MODEL
 SERIAL NUMBER, NAME,
 PART NUMBER AND THIS
 DRAWING NUMBER WHEN
 ORDERING.**

*See reverse side
 for installation,
 operating instructions
 and trouble shooting.*

**CALL SETHCO OR A SETHCO
 DISTRIBUTOR FOR PRICES**

ITEM	QTY	DESCRIPTION	MATERIAL	SI-1035A PART NUMBER	SI-1040A PART NUMBER	SI-1045A PART NUMBER
1A	1	O-Ring	Viton	590P2246-830	590P2246-830	590P2246-830
1B	1	O-Ring	Teflon	590P2247-770	590P2247-770	590P2247-770
2	1	Casing	SS-316	133P301335-670	133P301335-670	133P301335-670
3	1	Impeller	SS-316	430P201863-670	430P201852-670	430P201853-670
4A	1	Stationary Seat	Ceramic	750P041-150	750P041-150	750P041-150
4B	1	Stationary Seat	Carp. 20	750P041-130	750P041-130	750P041-130
5A	1	O-ring	Hypalon	590P2210-341	590P2210-341	590P2210-341
5B	1	O-ring	Viton	590P2210-830	590P2210-830	590P2210-830
6A	1	Rotary Seal	Graphite-Neoprene	760P04-320	760P04-320	760P04-320
6B	1	Rotary Seal	Graphite-Viton	760P04-310	760P04-310	760P04-310
6C	1	Rotary Seal	Graphite-Teflon	760P04-777	760P04-777	760P04-777
7	1	Shaft	SS-316	851P102496-670	851P102496-670	851P102496-670
8	2	Setscrew, 1/4-20 x 1/4"	SS-304	800P022002-680	800P022002-680	800P022002-680
9	4	Hex Bolt, 3/8" x 1"	SS-304	790P03161-680	790P03161-680	790P03161-680
10	4	Washer, 3/8"	SS-304	990P3968706-680	990P3968706-680	990P3968706-680
11	4	Lockwasher, 3/8"	SS-304	540P03-680	540P03-680	540P03-680
12	4	Hex Bolt, 5/16" - 18 x 1 1/4"	SS-304	790P5168102-680	790P5168102-680	790P5168102-680
13	8	Washer, 5/16"	SS-304	990P3286206-680	990P3286206-680	990P3286206-680
14	4	Lockwasher, 5/16"	SS-304	540P516-680	540P516-680	540P516-680
15	4	Nut, 5/16-18	SS-304	610P51618-680	610P51618-680	610P51618-680
16	1	Adapter	SS-304	010P400332-680	010P400332-680	010P400332-680
17	1	Motor, TEFC	SEE TEFC MOTORS BELOW			
18A	1	Seal Plate	SS-316	670P201977-670	670P201977-670	670P201977-670
18B*	1	Seal Plate	SS-316	750P202090-670	750P202090-670	750P202090-670
19	2	Screen	Polypro	830P201953-580	830P201953-580	830P201953-580
21**	1	Spacer	Nylon	770P102511-519	770P102511-519	770P102511-519

* Item 18B (Seal Plate / Lapped Seat) is used in the RT Rotary Seal Assembly (Item 20G)
 ** Item 21 (Spacer) is used on the following seals only: MC, CM, NM and MN (Items 20A, 20B, 20C and 20D)

COMPLETE MECHANICAL SEAL ASSEMBLIES (ITEMS 4, 5, & 6)

ITEM	QTY	DESCRIPTION	ASSEMBLY	PART NUMBER	PART NUMBER	PART NUMBER
20A	1	MC	4A, 5B, 6B	760P04-181	760P04-181	760P04-181
20B	1	CM	4A, 5A, 6A	760P04-180	760P04-180	760P04-180
20C	1	NM	4B, 5A, 6A	760P04-200	760P04-200	760P04-200
20D	1	MN	4B, 5B, 6B	760P04-201	760P04-201	760P04-201
20E	1	RC	4A, 5B, 6C	760P04-188	760P04-188	760P04-188
20F	1	RN	4B, 5B, 6C	760P04-204	760P04-204	760P04-204
20G	1	RT	6C, 18B	760P04-691	760P04-691	760P04-691

TEFC MOTORS

HORSEPOWER	PART NUMBER	PART NUMBER
	1 ph, 115/208-230V, 50/60Hz	3 ph, 208-230/308-460V, 50/60Hz
1/2	574P00M32313D40	574P00M35333D40
1	574P01032313D40	574P01035333D40

SETHCO CORROSION RESISTANT 316 STAINLESS STEEL HORIZONTAL PUMPS

MODELS SI-1035A, SI-1040A & SI-1045A

DISASSEMBLY

1. Loosen the four nuts (15), and remove the bolts (12), washers (13), and lockwashers (14).
2. Remove casing, (2) and O-ring (1). If O-ring is Viton, be sure to carefully inspect it for cracks or wear before re-using. Teflon O-rings should not be re-used.
3. Remove the four bolts (9) along with the washers (10) and lockwashers, (11).
4. Carefully lift the adapter (16) and the seal plate (18) enough to fit an open-end wrench on the flats of the shaft (7) straight off the shaft.
5. Remove impeller (3) by holding the shaft (7) with the wrench on and loosening the impeller with a 9/16" socket wrench on the impeller hub.
6. Carefully lift the seal plate (18) straight off the shaft.
7. Remove the seal seat (4) by hand being careful not to damage the lapped surface. Examine lapped surface for wear, scoring, or cracking. If one side of seat is worn, use reverse side when replacing*. Always use new O-rings and be careful not to pinch O-ring when inserting into plate.
8. Remove rotary seal (6) by sliding it straight off the shaft and closely inspecting the lapped surface and bellow gasket for wear.

*Ceramic seat has one lapped surface while Carpenter 20 seat has both sides lapped. Carpenter 20 can be reversed.

ASSEMBLY

1. Clean all pump sealing surfaces. Replace all parts by hand to prevent damage to lapped surfaces.
2. Lubricate O-ring (5) with water or water-based lubricant before pressing seal seat (4) into seal plate (18) being careful not to pinch O-ring.
3. Replace hardware for adapter, (16) by reversing step #3 as outlined in disassembly.
4. Wet the inside of bellow on rotary seal (6) with water or water-based lubricant before pressing over shaft (7). Insert rotary seal with lapped surface facing away from motor.
5. Carefully replace seal plate (18) straight over shaft (7) being careful when lapped surfaces of seal are coming into contact.
6. Place O-ring (1) over step in seal plate (18). Viton O-rings may need to be pre-stretched before fitting properly over step in seal plate. Teflon O-rings should be an exact fit.
7. Replace impeller by reversing step #5 outlined in disassembly.
8. Gently replace casing (2) over impeller being careful to properly align the steps in seal plate and casing. Be careful O-ring does not come off the step in the seal plate and does not get pinched when replacing casing in this step.
9. Replace hardware by reversing step #1 as outlined in disassembly.

PRE-INSTALLATION

Before using your new Sethco pump, there is some background information that will be of value to you. All Sethco pumps are tested for proper operation. Before installing your new Sethco pump, the following is recommended:

1. Determine that the merchandise checks against the packing slip for completeness of order. If there is a discrepancy, please notify Sethco immediately—preferably by phone and also confirm by mail.
2. Check the pump for proper operation. This checkout cannot

be as complete as an actual operational test; however, the following is suggested:

- Visually check the pump assembly for shipping damage.
 - Determine if any objects are lodged in the pump.
 - Turn the shaft to determine that it is not bound.
 - Damage to the drive motor can result from an excessive load.
3. Examine mounting location for maintenance accessibility. After the hose has been connected and before the pump is installed, it is recommended that the system be flushed of dirt and plastic chips.

PRIMING THE PUMP

1. Pump chamber and suction piping must be completely filled with fluid or pump will not prime. Check to be sure suction and discharge valves are open and suction piping is submerged in the fluid to be pumped. Start the pump.

SUCTION AND DISCHARGE PIPING

The suction pipe/hose must be secure and free of air leaks. This is particularly important when the suction line is a long one. A horizontal suction line should have a gradual rise to the pump. Any high point in the suction line will become filled with air and thus prevent proper operation of the pump. Discharge pipe/hose must be secured to prevent whipping, fatigue and accidental drainage.

TROUBLESHOOTING

NO DISCHARGE

- Pump not primed
- Speed too low
- System head too high
- Suction lift higher than that for which pump is designed
- Impeller or suction completely plugged
- Wrong direction of rotation
- Air leak in the suction line

INSUFFICIENT DISCHARGE

- Air leaks in suction
- Speed too low
- System head higher than anticipated
- Insufficient NPSHA
- Impeller or suction partially plugged
- Impeller damaged
- Suction opening not submerged enough
- Wrong direction of rotation

INSUFFICIENT PRESSURE

- Speed too low
- System head less than anticipated
- Air or gas in liquid
- Impeller damage
- Impeller diameter too small
- Wrong direction of rotation

LEAKS

- Locate leak and inspect O-ring, gasket, or mechanical seal. Seal should be replaced as a set when required.

EXCESS POWER CONSUMPTION

- Speed too high
- System head lower than rating, pumps too much liquid
- Specific gravity or viscosity of liquid pumped is too high
- Mechanical defects:
 - Shaft bent
 - Rotating elements bind
- Low Voltage Supplied