



Instruction Sheet

102-052

Horizontal Circulators Nos. 110 thru 120

Plant I.D. No. 001-318

APPLICATION:

1. Maximum recommended working pressure is 125 psi (862 K Pa).
2. Maximum water temperature must not exceed 240°F.
3. Cast Iron Circulators should be used for closed systems only.
4. Bronze circulators must be used in open or fresh water systems and potable water systems.

INSTALLATION:

1. Mounting position — Circulators must be mounted with motor in a horizontal position.
2. Rotating casing — Casing has an arrow on front which indicates direction of flow. To rotate casing remove the casing bolts, rotate casing and replace bolts. Make sure gasket is properly located before tightening bolts.
3. Electrical connections — Observe all applicable codes when connecting to power supply. The motors do not require overload protection.
4. Fill system — It is good practice to flush a new system of foreign matter before starting circulator.

TO REPLACE MOTORS:

1. Disconnect wiring.
2. Loosen the two set screws at pump end of spring coupling, remove bolts between bracket and motor and separate.
3. Loosen other set screw of coupling and remove coupling from old motor.
4. Slide coupler with single set screw over new motor shaft and tighten against flat surface of shaft.
5. Place new motor assembly into bracket and replace bolts.
6. Extend pump end of spring coupling over impeller shaft 3/16" and tighten both set screws. If impeller and shaft move into body during this operation, water will flow from weep hole in bracket. If this does occur, extend spring coupler a little more or until water stops flowing. CAUTION: UNDER NO CIRCUMSTANCES SHOULD THE WEEP HOLE BE PLUGGED.
7. Rewire motor.

TO REPLACE SPRING COUPLING

Follow same procedure outline above.

LUBRICATING INSTRUCTIONS

Re-oil pump and motor annually with SAE No. 30 oil.

*CAUTION: The addition of certain chemical additives to systems utilizing TACO Equipment, voids the warranty.

COMPARE. YOU'LL TAKE TACO.


TACO, Inc., 1160 Cranston St., Cranston, RI 02920 (401) 942-8000 Telex: 92-7627
TACO, (Canada) Ltd., 1310 Aimco Blvd., Mississauga, Ontario L4W 1B2 (416) 625-2160 Telex: 06-961179

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REPLACING SEALS

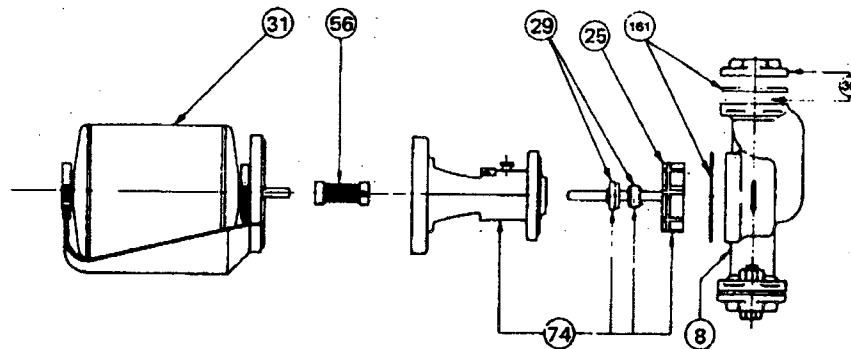
Water flowing from weep hole in bracket normally indicates dirt on the seat or seal needs replacement. Before taking pump apart extend spring coupling and impeller shaft into body as far as it will go. This will separate the seal halves and permit a greater flow thru the weeping hole and wash any foreign matter off the seats. Release and if flow stops, it indicates that the seals do not require replacement. If the flow does not stop, loosen the two set screws on the coupling and extend as far as it will go. If leak stops it means there was insufficient tension on the coupling. If leak continues, indications are that the seal needs replacement. Proceed as follows: —

1. Disconnect wiring.
2. Valve off or drain system.
3. Remove body bolts and pull entire assembly out of body.
4. Loosen the two set screws at pump end of spring coupler, file off any burrs on shaft and pull impeller and shaft from bracket.
5. Pry out old seal seat from bracket with a screwdriver and old part from impeller shaft with a pair of pliers.
6. Clean shaft and seal bearing surfaces thoroughly with clean cloth.
7. Dip CARBON part of seal in water to lubricate, place on top of impeller shaft with carbon facing up. Push down on shaft with palm of hand as far as it will go. Then with both thumbs push all the way down making certain that prongs engage the two holes in the impeller. If there are no holes in the impeller, break off the prongs with a pair of pliers and smooth burrs with a file.
8. Separate rubber from ceramic part, wet it and set into recess in bracket. Set ceramic seal into rubber with seat facing out by starting at a slight angle first, then pushing away and down simultaneously. The rubber rings should not be folded over during the operation. Make certain that both the rubber and ceramic are "bottomed" squarely.
9. Clean both seal surfaces with a clean lintless cloth.
10. Place a few drops of oil along the impeller shaft and push slowly with a twisting motion through ceramic part into bracket and spring coupling.
11. While holding impeller and shaft with seal faces mating, insert an Allen wrench into one of the set screws in the coupling, extend spring — 3/16".
12. Remove old body gasket, clean surfaces and replace with new gasket.
13. Place entire assembly into body, replace and tighten bolts gradually and evenly all around.
14. Refill system. If water leaks from weep hole in bracket increase tension on spring coupling slightly more or until leak stops.
15. Rewire motor.

	REPLACEMENT PARTS LIST
	Effective: April 1, 1989 Supersedes: 104-003 dated 4/15/87
NUMBER 104-003	

REPLACEMENT PARTS FOR 110 Through 120

REFER TO 103-104 for LIST PRICES



ITEM #3 BODY GASKET	
MODEL NUMBER	PART NUMBER
HC, 110, 112 & 117	110-364RP
HDH, 111, 113 & 120	120-009RP

ITEM #29 SEAL	
MODEL NO.	PART NO.
All 110 to 120-12	110-275RP

ITEM #8 BODY		
MODEL NO.	CAST IRON	BRONZE
HC, 110 & 112	110-228RP	110-226BRP
HDH & 111	111-004RP	111-004BRP
113	113-001RP	113-001BRP
120-1 to 120-5	NA	NA
120-6 to 120-12	120-083RP	120-083BRP

ITEM #31 MOTOR ASSEMBLY	
MODEL NO.	PART NO.
HC & 110 & 117	110-223RP
HDH, 111 & 113	110-185RP
112	112-074RP
All 120	120-105RP

ITEM #25 IMPELLER & SHAFT		
MODEL NO.	CAST IRON	BRONZE
HC, 110, 110 & 110B	110-207RP	110-207RP
HDH, 111 & 111B	111-053RP	111-053RP
112, 112C & 112B	112-043RP	112-055RP
113, 113C & 113B	113-009RP	113-009RP
120-1 to 120-5	120-056RP	120-060RP
120-6 to 120-12	120-038RP	120-054RP

ITEM #56 COUPLER	
MODEL NO.	PART NO.
All 110 to 120-12	110-009RP

ITEM #74 BRACKET ASSEMBLY			
MODEL NO.	CAST IRON	BRZ. FITTED	BRONZE
HC, 110 & 117	110-361RP	110-361RP	110-362BRP
HDH & 111	111-058RP	111-058RP	111-059BRP
112	112-120RP	112-103BRP	112-103BRP
113	113-013RP	113-013RP	113-012BRP
120-1 to 120-5	120-076RP	120-078RP	120-077BRP
120-6 to 120-12	120-067RP	120-069RP	120-068BRP

ITEM #113 FLANGE GASKET SET	
MODEL NUMBER	PART NUMBER
Flat Red Rubber	110-023RP
Round Cork (Thick)	110-227RP
110 to 113	110-339RP
120-1 to 120-5	120-008RP
120-6 to 120-12	1600-169RP

ITEM #161 GASKET KIT	
MODEL NO.	PART NO.
110 to 113	110-127RP
120	120-073RP

ITEM #38 FLANGE SET		
MODEL NO.	CAST IRON	BRONZE
120-1 to 120-5	120-044RP	120-044BRP
120-6 to 120-12	1600-032RP	1600-032BRP

MOTOR ASSEMBLY L/MOTOR	
MODEL NO. & HP	PART NO.
110 (1/12 HP)	110-082RP
111 & 113 (1/8 HP)	110-008RP
112 (1/3 HP)	110-042RP
120 (1/6 HP)	110-008RP

ITEM —
 Flange Set
 ¾", 1", 1½", & 1¾"
 Interchangeable.
 Refer to Price Sheets
 103-003. For 120
 models with 2 holes,
 specify 1600-032BRP
 Bronze, 1600-032RP
 Cast Iron.
 120 models with 4
 holes, specify 120-044RP
 for Cast Iron, 120-044BRP
 for Bronze.

PRODUCT RETURNS/WARRANTY

Warranty Terms

All products except 00 series circulators, 570 series electric zone valves, commercial pumps, and commercial circulators. See separate statements of warranty terms for these products.

Taco, Inc. will repair or replace without charge (at the Company's option) any product or part which is proven defective under normal use within one (1) year from the date of start-up or one (1) year and six (6) months from date of shipment (whichever occurs first).

In order to obtain service under this warranty, it is the responsibility of the purchaser to promptly notify the Company in writing and promptly deliver the item in question, delivery prepaid to the factory. For complete details on warranty returns, the purchaser should contact a local Taco stocking distributor or the Company. If the product or part in question contains no defect as covered in this warranty, the purchaser will be billed for parts and labor charges in effect at time of factory examination and repair.

Any Taco product or part not installed or operated in conformity with Taco instructions or which has been subjected to misuse, misapplication, the presence of certain chemicals (such as solvents, acids, etc.) or other abuse will not be covered by this warranty. For complete information on chemical and application restrictions, the purchaser should contact the Company.

Taco, Inc. reserves the right to make changes in details of design, construction, or arrangement of materials of its products without notification.

Taco, Incorporated offers this warranty in lieu of all other express or implied warranties. No warranties are made for merchant ability or fitness for use and there are no warranties that extend beyond the description contained herein. Taco, Inc. will not be liable for any special, incidental or consequential damages.

Taco, Inc. 1160 Cranston Street, Cranston, RI 02920 (401) 942-8000



Instruction Sheet

102-052

Horizontal Circulators Nos. 110 thru 120

Plant I.D. No. 001-318

APPLICATION:

MODEL 112

1. Maximum recommended working pressure is 120 psi (862 K Pa).
2. Maximum water temperature must not exceed 240°F.
3. Cast Iron Circulators should be used for closed systems only.
4. Bronze circulators must be used in open or fresh water systems and potable water systems.

INSTALLATION:

1. Mounting position — Circulators must be mounted with motor in a horizontal position.
2. Rotating casing — Casing has an arrow on front which indicates direction of flow. To rotate casing remove the casing bolts, rotate casing and replace bolts. Make sure gasket is properly located before tightening bolts.
3. Electrical connections — Observe all applicable codes when connecting to power supply. The motors do not require overload protection.
4. Fill system — It is good practice to flush a new system of foreign matter before starting circulator.

TO REPLACE MOTORS:

1. Disconnect wiring.
2. Loosen the two set screws at pump end of spring coupling, remove bolts between bracket and motor and separate.
3. Loosen other set screw of coupling and remove coupling from old motor.
4. Slide coupler with single set screw over new motor shaft and tighten against flat surface of shaft.
5. Place new motor assembly into bracket and replace bolts.
6. Extend pump end of spring coupling over impeller shaft 3/16" and tighten both set screws. If impeller and shaft move into body during this operation, water will flow from weep hole in bracket. If this does occur, extend spring coupler a little more or until water stops flowing. CAUTION: UNDER NO CIRCUMSTANCES SHOULD THE WEEP HOLE BE PLUGGED.
7. Rewire motor.

TO REPLACE SPRING COUPLING

Follow same procedure outline above.

LUBRICATING INSTRUCTIONS

Re-oil pump and motor annually with SAE No. 30 oil.

*CAUTION: The addition of certain chemical additives to systems utilizing TACO Equipment, voids the warranty.

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REPLACING SEALS

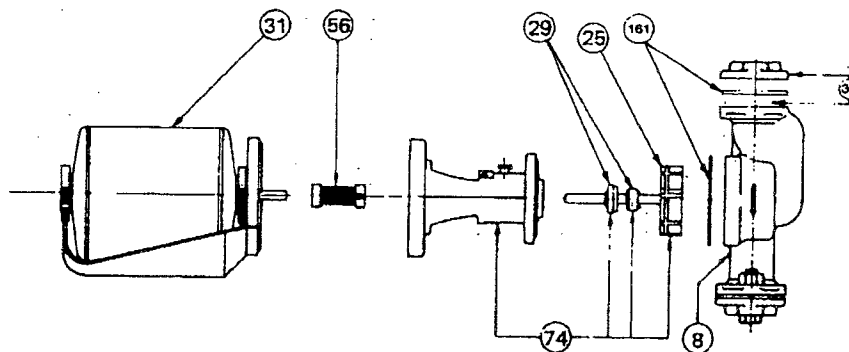
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5. Pry out old seal seat from bracket with a screwdriver and old part from impeller shaft with a pair of pliers.
6. Clean shaft and seal bearing surfaces thoroughly with clean cloth.
7. Dip CARBON part of seal in water to lubricate, place on top of impeller shaft with carbon facing up. Push down on shaft with palm of hand as far as it will go. Then with both thumbs push all the way down making certain that prongs engage the two holes in the impeller. If there are no holes in the impeller, break off the prongs with a pair of pliers and smooth burrs with a file.
8. Separate rubber from ceramic part, wet it and set into recess in bracket. Set ceramic seal into rubber with seat facing out by starting at a slight angle first, then pushing away and down simultaneously. The rubber rings should not be folded over during the operation. Make certain that both the rubber and ceramic are "bottomed" squarely.
9. Clean both seal surfaces with a clean lintless cloth.
10. Place a few drops of oil along the impeller shaft and push slowly with a twisting motion through ceramic part into bracket and spring coupling.
11. While holding impeller and shaft with seal faces mating, insert an Allen wrench into one of the set screws in the coupling, extend spring — 3/16".
12. Remove old body gasket, clean surfaces and replace with new gasket.
13. Place entire assembly into body, replace and tighten bolts gradually and evenly all around.
14. Refill system. If water leaks from weep hole in bracket increase tension on spring coupling slightly more or until leak stops.
15. Rewire motor.

		REPLACEMENT PARTS LIST
NUMBER 104-003	Effective: April 1, 1989 Supersedes: 104-003 dated 4/15/87	

REPLACEMENT PARTS FOR 110 Through 120

REFER TO 103-104 for LIST PRICES



ITEM #3 BODY GASKET	
MODEL NUMBER	PART NUMBER
HC, 110, 112 & 117	110-364RP
HDH, 111, 113 & 120	120-008RP

ITEM #29 SEAL	
MODEL NO.	PART NO.
All 110 to 120-12	110-275RP

ITEM #8 BODY		
MODEL NO.	CAST IRON	BRONZE
HC, 110 & 112	110-226RP	110-226BRP
HDH & 111	111-004RP	111-004BRP
113	113-001RP	113-001BRP
120-1 to 120-5	NA	NA
120-6 to 120-12	120-083RP	120-083BRP

ITEM #31 MOTOR ASSEMBLY	
MODEL NO.	PART NO.
HC & 110 & 117	110-223RP
HDH, 111 & 113	110-185RP
112	112-074RP
All 120	120-105RP

ITEM #25 IMPELLER & SHAFT		
MODEL NO.	CAST IRON	BRONZE
HC, 110, 110 & 110B	110-207RP	110-207RP
HDH, 111 & 111B	111-053RP	111-053RP
112, 112C & 112B	112-043RP	112-055RP
113, 113C & 113B	113-009RP	113-009RP
120-1 to 120-5	120-056RP	120-060RP
120-6 to 120-12	120-038RP	120-054RP

ITEM #56 COUPLER	
MODEL NO.	PART NO.
All 110 to 120-12	110-009RP

ITEM #74 BRACKET ASSEMBLY			
MODEL NO.	CAST IRON	BRZ. FITTED	BRONZE
HC, 110 & 117	110-361RP	110-361RP	110-362BRP
HDH & 111	111-058RP	111-058RP	111-059BRP
112	112-120RP	112-103BRP	112-103BRP
113	113-013RP	113-013RP	113-012BRP
120-1 to 120-5	120-076RP	120-078RP	120-077BRP
120-6 to 120-12	120-067RP	120-069RP	120-068BRP

ITEM #113 FLANGE GASKET SET	
MODEL NUMBER	PART NUMBER
Flat Red Rubber	110-023RP
Round Cork (Thick)	110-227RP
110 to 113	110-339RP
120-1 to 120-5	120-008RP
120-6 to 120-12	1600-169RP

ITEM #38 FLANGE SET		
MODEL NO.	CAST IRON	BRONZE
120-1 to 120-5	120-044RP	120-044BRP
120-6 to 120-12	1600-032RP	1600-032BRP

MOTOR ASSEMBLY L/MOTOR	
MODEL NO. & HP	PART NO.
110 (1/12 HP)	110-082RP
111 & 113 (1/8 HP)	110-008RP
112 (1/3 HP)	110-042RP
120 (1/8 HP)	110-008RP

ITEM #161 GASKET KIT	
MODEL NO.	PART NO.
110 to 113	110-127RP
120	120-073RP

ITEM —

Flange Set

¾", 1", 1½", & 1¾"

Interchangeable.

Refer to Price Sheets

103-003. For 120

models with 2 holes,

Specify 1600-032BRP

for Bronze, 1600-032RP


for Cast Iron.

For 120 models with 4

holes, specify 120-044RP

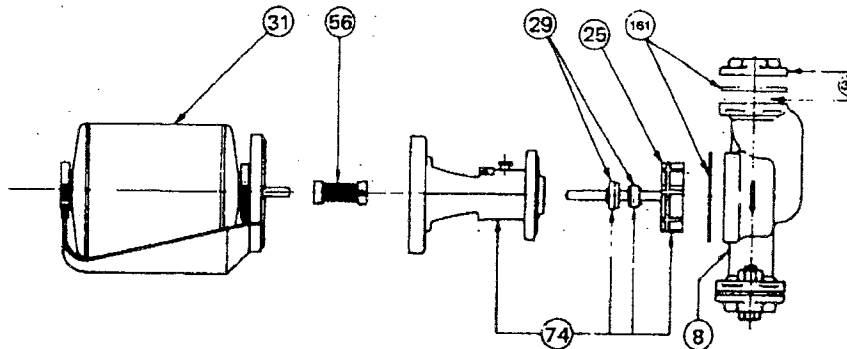
for Cast Iron, 120-044BRP

for Bronze.

	REPLACEMENT PARTS LIST
	Effective: April 1, 1989 Supersedes: 104-003 dated 4/15/87
NUMBER 104-003	

REPLACEMENT PARTS FOR 110 Through 120

REFER TO 103-104 for LIST PRICES



ITEM #3 BODY GASKET	
MODEL NUMBER	PART NUMBER
HC, 110, 112 & 117	110-364RP
HDH, 111, 113 & 120	120-009RP

ITEM #29 SEAL	
MODEL NO.	PART NO.
All 110 to 120-12	110-275RP

ITEM #8 BODY		
MODEL NO.	CAST IRON	BRONZE
HC, 110 & 112	110-226RP	110-226BRP
HDH & 111	111-004RP	111-004BRP
113	113-001RP	113-001BRP
120-1 to 120-5	NA	NA
120-6 to 120-12	120-083RP	120-083BRP

ITEM #31 MOTOR ASSEMBLY	
MODEL NO.	PART NO.
HC & 110 & 117	110-223RP
HDH, 111 & 113	110-185RP
112	112-074RP
All 120	120-105RP

ITEM #56 COUPLER	
MODEL NO.	PART NO.
All 110 to 120-12	110-009RP

ITEM #25 IMPELLER & SHAFT		
MODEL NO.	CAST IRON	BRONZE
HC, 110, 110 & 110B	110-207RP	110-207RP
HDH, 111 & 111B	111-053RP	111-053RP
112, 112C & 112B	112-043RP	112-055RP
113, 113C & 113B	113-009RP	113-009RP
120-1 to 120-5	120-056RP	120-060RP
120-6 to 120-12	120-038RP	120-054RP

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MODEL NO.	CAST IRON	BRZ. FITTED	BRONZE
HC, 110 & 117	110-361RP	110-361RP	110-362BRP
HDH & 111	111-058RP	111-058RP	111-059BRP
112	112-120RP	112-103BRP	112-103BRP
113	113-013RP	113-013RP	113-012BRP
120-1 to 120-5	120-076RP	120-078RP	120-077BRP
120-6 to 120-12	120-067RP	120-069RP	120-068BRP

ITEM #113 FLANGE GASKET SET	
MODEL NUMBER	PART NUMBER
Flat Red Rubber	110-023RP
Round Cork (Thick)	110-227RP
110 to 113	110-339RP
120-1 to 120-5	120-008RP
120-6 to 120-12	1600-169RP

ITEM #36 FLANGE SET		
MODEL NO.	CAST IRON	BRONZE
120-1 to 120-5	120-044RP	120-044BRP
120-6 to 120-12	1600-032RP	1600-032BRP

MOTOR ASSEMBLY L/MOTOR	
MODEL NO. & HP	PART NO.
110 (1/12 HP)	110-082RP
111 & 113 (1/8 HP)	110-008RP
112 (1/3 HP)	110-042RP
120 (1/8 HP)	110-008RP

ITEM #161 GASKET KIT	
MODEL NO.	PART NO.
110 to 113	110-127RP
120	120-073RP

ITEM —
 Flange Set
 ¾", 1", 1¼", & 1½"
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 Refer to Price Sheets
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 models with 2 holes,
 specify 1600-032BRP
 for Bronze, 1600-032RP
 for Cast Iron.
 120 models with 4
 holes, specify 120-044RP
 for Cast Iron, 120-044BRP
 for Bronze.

PRODUCT RETURNS/WARRANTY

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Any Taco product or part not installed or operated in conformity with Taco instructions or which has been subjected to misuse, misapplication, the presence of certain chemicals (such as solvents, acids, etc.) or other abuse will not be covered by this warranty. For complete information on chemical and application restrictions, the purchaser should contact the Company.

Taco, Inc. reserves the right to make changes in details of design, construction, or arrangement of materials of its products without notification.

Taco, Incorporated offers this warranty in lieu of all other express or implied warranties. No warranties are made for merchant ability or fitness for use and there are no warranties that extend beyond the description contained herein. Taco, Inc. will not be liable for any special, incidental or consequential damages.

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