NOTE! To the installer: Please make sure you provide this manual to the owner of the equipment or to the responsible party who maintains the system.

MODEL WG20
DUPLEX GRINDER PUMPS
INSTALLATION AND SERVICE MANUAL

For Myers WG20 Duplex Grinder Pumps with Lift-Out Rail System Installed in Fiberglass Basin at Factory as Complete System, or Rail Parts for Installing in Fiberglass or Concrete Basin by Customer.

NOTE! To the installer: Please make sure you provide this manual to the owner of the equipment or to the responsible party who maintains the system.
NOTE – When complete packaged system, including fiberglass basin, is supplied from factory all parts are mounted in basin except pump and level controls. Piping and guide plates for pumps are shipped in separate packages and must be ordered separately. Two packages are required for duplex system.

Level controls are to be ordered separately and must be mounted in basin. Controls are specified at time of order so proper brackets are mounted in basin for supporting controls. When mercury float controls are used, three are required. If optional alarm control is to be used, it must be specified at time of order so bracket can be mounted. Control box and pumps are ordered depending on voltage and phase and if NEMA 3R is required.

CALIFORNIA PROPOSITION 65 WARNING:

This product and related accessories contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

STEPS TO INSTALL RAIL SYSTEM IN FIBERGLASS OR CONCRETE BASIN

1. Unpack parts and check that all packages listed are available. Remove full size paper template to use in basin bottom to properly locate bolting for discharge cases and to locate vertical center lines for flanges. Drop plumb line from cover holes in basin rim to properly locate base castings.

2. Clean basin bottom thoroughly before placing in paper template. If basin is concrete, chip out any protruding rocks. Punch through paper for bolt hole location. Drop plumb line from top of basin for center line locations and mark center line on basin wall with chalk. If basin is fiberglass it must be mounted on level surface with walls plumb before marking. All parts should be installed in fiberglass basin before placing in ground.

3. If basin is concrete, holes must be drilled in basin bottom and side walls for mounting parts. Use machine bolt expansion sleeves 1-1/2" long 3/8" size. Use 5/8" carbide drill to drill holes. If basin is fiberglass, rubber seal washers are furnished for hold-down bolts.

4. Cut holes through concrete wall or fiberglass basin wall to locate discharge and support flanges. Pipes can be cemented into wall instead of using flanges if desired.

5. Bolt discharge cases to basin bottom. If basin is fiberglass, seal washers are furnished to seal bolt heads where bolts pass through basin bottom. Bolt all flanges in place. Do not tighten bolts completely tight at this stage as some adjustment may be necessary when rails are placed.

6. Install discharge piping from base casting to discharge flange. Be sure vertical piping is plumb so that it will not interfere with the rail guide pipes. Use slip coupling to join pipes.

7. Install 1" galv. pipe rails. Stainless steel or other corrosion resistant pipe may be used as long as the O.D. is same as 1" std. pipe, 1.315" O.D. In order to mount the rail support bracket it may be necessary to place the yoke in the rails, then push the support nipple through the yoke and screw into mounting flange. Bolts can be loosened in the flange to allow alignment if necessary. If pipe is cemented in, be sure all piping is in place and plumbed and blocked before final cementing.

8. Align 1" rails plumb by using a level in both directions on pipe. Adjust rail support yoke if necessary. Once rails are properly aligned, tighten all bolts in base castings and flanges.

9. Mount level control support brackets and install level controls on brackets and set SM25NO controls at proper levels.

10. If basin cover is used where control box is mounted directly on cover, attach aluminum connection box to 2" elbow supplied with cover before mounting cover to basin.

11. Place cover on basin and bolt in place. If basin is concrete, expansion sleeves must be installed at proper bolt locations.

12. Inlet flange must be mounted to basin at depth required to get gravity flow into basin. Flanges are available for 4", 6" or 8" pipe and more than one inlet can be used if required. Inlet hole is cut and flange is mounted in the field.

Cubic feet of concrete poured around basin to prevent flotation.

<table>
<thead>
<tr>
<th>BASIN DIA.</th>
<th>CUBIC FEET OF CONCRETE REQUIRED PER FOOT OF BASIN DEPTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>24&quot;</td>
<td>2</td>
</tr>
<tr>
<td>30&quot;</td>
<td>3.5</td>
</tr>
<tr>
<td>36&quot;</td>
<td>5</td>
</tr>
<tr>
<td>48&quot;</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Example – 24" dia. basin 8 ft. deep requires 2 x 8 = 16 cu. ft. of concrete to prevent flotation. If basin is installed in dry ground without surface water, 1/3 of above values may be used.
ASSEMBLING PIPING TO PUMP

Pump grinder plate and pump discharge piping is supplied with other rail parts.

1. Attach guide plate and piping to pump. Be sure piping is plumb, then tighten all set screws. Attach lifting chain to lifting eye with clevis supplied. Pumps can now be lowered into position with lifting chain. Retain power and control cords at surface as pump is lowered.

When pumps are in place, attach cords to connection box. Remove slack from wires so that they will hang vertical without tangling.

2. Connect level control cords to connection box as shown on wiring diagrams.

3. Install control box on cover and connect to cover with 2" conduit as shown.

4. Run wires to control box and connect to cords coming into connection box. Mark or trace each incoming wire so that it can be connected to proper cord.

5. Do not pour sealing compound into fitting until pumps have been run, to be sure all connections are correct.

NOTE – If control box is to be installed, off-set from basin. The CF-200 conduit flange must be installed in basin and connection box to be connected to flange before installing cover.

6. Install hold-down guides and 1/2" galv. hold-down pipe. Screw pipe into lower guide. Upper guides fasten to rails and hold-down pipe with set screws. The hold-down pipe is necessary to prevent hydraulic pressure from lifting pump from base seal casting. The hydraulic pressure keeps the pumps suspended when in operation so there is no side load on the rails and removal is easier when required.

7. Valve adapter and shut-off handles are connected with 1/2" galv. pipe and held with set screws. These shut-off stems are installed in 1-1/2" plastic pipe guides attached to valves.

STARTING SYSTEM

1. Open 1-1/4" bronze gate valves; turn counterclockwise to open.

2. Set pump switches on Auto position and run water into sump until level controls starts one pump. Allow pump to operate until sump level drops, stopping pump.

IMPORTANT – Lower level control or weight should be set so that sump level drops to within 1" or 2" from bottom of pump before stopping pump.

3. Turn both pump switches to Off and fill sump until level is to override control, then turn both pump switches to Auto position. Both pumps should come on and operate until sump level drops to the Off position.

4. Leave both pump switches to Off and fill sump until level is to override control, then turn both pump switches to Auto position. Both pumps should come on and operate until sump level drops to the Off position.

5. Leave both pump switches to Auto position and system is now ready for automatic operation.

IN CASE OF TROUBLE CHECK THE FOLLOWING:

Pumps will run but not deliver water.

1. Probably air lock. Start and stop pump several times. If this does not clear air turn both pumps to Off and run more water into sump 6" to 12" higher. If air still does not clear it may be necessary to raise hold-down pipe and lift pump so that lower seal fitting is out of the discharge case to release air.

2. Be sure shut-off valve is open in discharge line.

3. If pump is 3 phase be sure rotation is correct. Grind impeller must rotate counterclockwise when looking at pump inlet. Do not put fingers near grinder impeller.

Pump seal fitting does not hold tight.

1. Probably cut or broken O-ring. Replace if necessary. Trash may be caught in seal flange. Lift pump and open shut-off valve to back flush discharge casting.

On installation where discharge line is not filled it may be necessary to lift pump until seal flange is out of discharge case, then run pump to flush casting.

For all other trouble problems with pump or control box refer to pump and control box instructions included with these items.

CAUTION – Never work on pumps or controls unless power is turned off. If pump is remote from control box, disconnect wires to pumps to be certain power cannot be turned on when working on pumps. Never put fingers near grinder impeller when pump cord is connected.
MYERS DUPLEX LIFT-OUT RAIL SYSTEM IN 36" OR 48" CONCRETE BASIN

- Use paper template furnished with parts to locate discharge casting and flanges.
- Center line of discharge pipe flanges.
- Holding clamps and support brackets for shut-off guide pipe.
- Yoke locking set screws.
- Centerline of rail support flanges.
- Use 1-1/4 galv. pipe plug.
- Use soft rubber gasket, supplied, behind flanges.
- 36" basin: 17-3/8" for 36" basin; 18-1/4" for 48" basin.
- 48" basin: 11-1/4" for 36" basin; 11-3/4" for 48" basin.
- 10" 2" conduit to control box (by others).
- 1-1/4 galv. nipple thread one end x 10" long.
- 1-1/4 x 6" galv. nipple.
- 1-1/4 x 3" galv. nipple.
- 1-1/4 galv. pipe shut-off stem.
- 1-1/4 galv. pipe discharge flange.
- 36" or 48" concrete pipe basin or manhole.
- 1-1/2" P.V.C. sched. 40 pipe for shut-off guide (by others).
- Discharge pipe 1-1/4 galv. (by others).
- Discharge casting.
- Length of discharge pipe 12-1/4" less than length from C of discharge pipe to bottom of basin.
- Depth of basin to suit installation.
- Below frost line.
- 3/8-16 x 2" L.G. machine bolt & anchor bolt series 11-3/4" L.G. expansion sleeve (total required 32 each, by others).
- Use rust proof plated bolts and sleeves (washers are furnished).
- Use 3-1/2" L.G. #3500 series 1-1/2" L.G. expansion sleeve (total required 32 each, by others).

[Diagram of the system with labels and dimensions]
MYERS DUPLEX LIFT-OUT RAIL SYSTEM IN 36" OR 48" FIBERGLASS BASIN
MSER DUPLEX LIFT-OUT RAIL SYSTEM IN 36" OR 48" FIBERGLASS BASIN

- Panel Support, 2" Pipe
- Control Panel
- 2" Conduit Req'd.
- 36" Basin Cover w/Hinged Hatch & P'lock Hasp. 1/4" Epoxy Coated Steel Floor Plate
- Junction Box Structural Plastic
- Valve Extension Handle SST Fasteners
- Foam Seal Tape
- Railing Flange
- Epoxy Coated Steel As Req'd.
- Rise, 1 1/4" Pipe, PVC
- L/O Chain, Galv.
- Rails, 1" Pipe Pultruded F.G.
- 1" Galv Over 96" Basin Depth
- 1 1/4" Ball Valve True Union, Fully Blocked Type PVC
- 1 1/4" Slip Socket Discharge Flange, Struct. Plastic
- High Water Alarm Level
- Inlet Invert Level
- Adapt-A-Flex Inlet Ftg. Field Installed Specify Pipe Size & Type
- Swing Check Valve (C.I.) & Disconnect (C.I.) Assy.
- WG/WGL20 Pumps 2HP ___V _____ø

General Requirements:
- FiberGlass Rein. Polyester Resin, Surfaces gelcoated to seal fibers, 1/4" Min. Wall Thickness
- 120 PSF Load Rating at S.F. 2
- FiberGlass Rein. Polyester Resin, Surfaces gelcoated to seal fibers, 1/4" Min. Wall Thickness
- 120 PSF Load Rating at S.F. 2
- Rein. Concrete Antiflotation Base Req'd. 3 Cu. Ft. For Each Foot of Basin Depth
- Guide Plate Struct. Plastic
- Rail Support Struct. Plastic
- 1 1/4" Antisiphon Valve, PVC (If Req'd.)
- Control Mtg. Drkt. SST
ASSEMBLING DISCHARGE PIPING AND RAIL GUIDES TO PUMP

1. SCREW NIPPLE WITH HALF UNION INTO PUMP AND CONNECT TO PIPING. JUST TIGHTEN UNION SNUG.
2. SCREW 1½” NIPPLE INTO CORD HOUSING CAP.
3. PLACE UPPER GUIDE PLATE OVER 1½” NIPPLE AND TURN PLATE UNTIL 1” PIPE OPENING LINES WITH HOLE IN CHECK VALVE BODY.
4. INSERT 1” NIPPLE WITH CAP THROUGH EYE PLATE AND SCREW INTO VALVE BODY, TIGHTEN SET SCREWS IN GUIDE PLATE.
5. TIGHTEN UNION
6. IF LOWER RAIL GUIDE DOES NOT LINE WITH UPPER PLATE, TURN 1½” DISCHARGE NIPPLE UNTIL GUIDE HOLES LINE UP.
7. SCREW CONDUIT BUSHING ONTO PUMP CORD NIPPLE.
### RWG & RWGX 125 Rail System Parts List for 2HP Grinder Pumps

<table>
<thead>
<tr>
<th>Ref. No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Standard RWG-125</th>
<th>Hazardous Location RWGX-125</th>
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<td>22428C010</td>
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</tbody>
</table>
* Control cord blue wire may be omitted depending on production date of pump. If blue wire is used connect as shown, if not omit blue wire connections.

** Gauge depends on horsepower of pump.
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STANDARD LIMITED WARRANTY

Pentair Myers® warrants its products against defects in material and workmanship for a period of 12 months from the date of shipment from Pentair Myers or 18 months from the manufacturing date, whichever occurs first – provided that such products are used in compliance with the requirements of the Pentair Myers catalog and technical manuals for use in pumping raw sewage, municipal wastewater or similar, abrasive-free, noncorrosive liquids.

During the warranty period and subject to the conditions set forth, Pentair Myers, at its discretion, will repair or replace to the original user, the parts that prove defective in materials and workmanship. Pentair Myers reserves the right to change or improve its products or any portions thereof without being obligated to provide such a change or improvement for prior sold and/or shipped units.

Start-up reports and electrical schematics may be required to support warranty claims. Submit at the time of start-up through the Pentair Myers website: http://forms.pentairliterature.com/startupform/startupform.asp?type=m. Warranty is effective only if Pentair Myers authorized control panels are used. All seal fail and heat sensing devices must be hooked up, functional and monitored or this warranty will be void. Pentair Myers will cover only the lower seal and labor thereof for all dual seal pumps. Under no circumstance will Pentair Myers be responsible for the cost of field labor, travel expenses, rented equipment, removal/reinstallation costs or freight expenses to and from the factory or an authorized Pentair Myers service facility.

This limited warranty will not apply: [a] to defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with the printed instructions provided; [b] to failures resulting from abuse, accident or negligence; [c] to normal maintenance services and parts used in connection with such service; [d] to units that are not installed in accordance with applicable local codes, ordinances and good trade practices; [e] if the unit is moved from its original installation location; [f] if unit is used for purposes other than for what it is designed and manufactured; [g] to any unit that has been repaired or altered by anyone other than Pentair Myers or an authorized Pentair Myers service provider; [h] to any unit that has been repaired using non factory specified/OEM parts.

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Warranty Rev. 12/13