WE KEEP THINGS MOVING
Dear customer:

Congratulations! You have just made a wise decision to purchase high-quality DP machine set.

DP N1 is a new kind of transfer pump. By combining perfect and advanced design with excellent techniques, DP has made this type of mortar machine set featuring reliable performance, strong adaptability, and durability. This machine set along with accessories of high compatibility and durability will provide outstanding work performance and greatly improve productivity. Being easy to carry and maintain, DP machine set is one kind of dry powder mortar machine sets which are the most favorite machine sets in Europe.

Please keep this manual properly. This machine provides you with vital information about the machine’s functions. Read the manual thoroughly before you operate this machine set. DP will not liable for accidents and malfunctions that are caused by incorrect operation. Proper operation and maintenance will make the DPN1 a dependable aid.

EW persists in the strategy of sustainable development. Therefore, we reserve the right to improve the products described in this manual without any notice in advance.

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**Introduction**

**First inspection after delivery**

If necessary, you can make an appointment with designated dealers to arrange this service. At the end of first operation of this machine, please check if the operation and adjustment of the machine is normal. Factory setting can be reasonably changed according to actual demand.

The suggested time for testing the machine at first time is two hours at least. At the end of first operation, technicians should inspect the following items and settings:

1. Pump core pressure
2. Control box
3. Air control switch
4. Manual or Remote control switch

**NOTE!**
**WARRANTY CARD MUST BE FILLED AND RETURNED TO DP.**
**NO WARRANTY WITHOUT WARRANTY CARD!**
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Overview

1. Pump motor
2. Material hopper
3. Control box
4. Air pump
5. Screw pump
6. Retarder
Electric Box Overview

- Forward/reverse switch
- Speed regulating knob
- Main switch
- Motor socket
- Wire/air control switch
- Wire control
Icons

- **Air pump**
- **Speed control motor**
- **Do not insert hand into operating machine**
- **Spange balls**
- **Screw pump**
- **Mixed gas gun**
- **High pressure gun**
Description of functions

DPN1 is a small-size dry-mixed mortar transfer pump, which is suitable for materials less than 2 mm, such as mortar that can be pumped, putty, paint, coating material and things alike. DPN1 can be your spraying machine if it is equipped with DP small-size air compressor, spray gun or relative accessories.

DP N1 is composed of many independent components. The volume and handy design facilitate the transportation of the machine.
Test the machine as follows:

1. Power extension cord should be 3 core 4 squares-6 squares wire with socket.
2. Connects the power source plug with a socket.
3. Inserts electric motor attachment plug into the socket at electric box.
4. Pushes down the red master switch.
5. Twists the normal and reverse directions alternation switch to “Forward”.
6. Inserts the manual operation wire plug into its socket.
7. Rotates the speed regulation handwheel clockwise till it above 1/3 appropriate location then starts motor.
8. Twists the "air/wire switch" in the side of electricity box to “wire” when you want to operate the machine at distance. Start or stop the motor through wire switch.
9. Twists the "air/wire switch" in the side of electricity box to “air” when you want to operate the machine by air. Start or stop the machine through the pressure switch on the spray gun.
10. Off the alternation switch when job over.
11. Keep the motor backwards less than 3 seconds if need.
Pump core

The DP N1 is equipped with the A3-2 mf pump core.
Rotor and Stator are wear and tear parts. Inspect them regularly!

NOTE!

1. A3 can be used up to 20bar operating pressure.
2. The maximum pumping distance depends on the viscosity of the mortar. Coarse grained heavy mortar does not flow easily whereas fluid mortars, filling compounds and floor screed flow easily.
3. to avoid machine breakdowns and excessive wear and tear of the pump motor mixing shaft and pump always use original DP parts such as:

   DP rotors
   DP stators
   DP mixing shafts
   DP high pressure mortar hoses
   DP clamps

All these components are compatible with each other and form a single construction unit. If you do not adhere to these recommendations, you stand to forfeit your warranty rights. The quality of the mortar you are producing will also suffer.
Mortar viscosity and fluidity/Spraying guns and caps/ Interruption

Mortar viscosity and fluidity
The mortar viscosity depends on how much water is put into the material, and fluidity depends on the water film formed by motor material in the hose. The water film can decrease the friction between mortar and the hose to increase the fluidity of the mortar. Apply material on wall surfaces from bottom to top. If the water quantity is not enough, even mixing and spraying cannot take place. There may be clogging in the hose. Pumping components are thus subject to greater wear and tear.

Spraying guns and caps
Use spraying caps of 2, 3, 4, 5, or 6 mm depending on the mortar consistency. Larger caps reduce the projection speed and the rebound effect. Smaller caps create better atomization. Note that the gap between the air nozzle tube and the spraying cap should correspond to the diameter of the spraying cap.

Interruption of spraying operation

Follow all instructions of mortar manufacturer while interrupting spraying operations.

Clean the pump in the event of long interruptions.
See procedures at The End of Work and Cleaning.
**Procedures at the end of work and clean / transport / maintenance**

- switch off material supply
- pour in water and wait until the water flows out.
- depressurize the hoses by operating the machine in opposite direction.
- make sure hoses are completely depressurized.
- turn off the machine and plug out the power supply wire.
- dismantle and clean the hoses (including the mortar pressure gauge), make sure the inner wall is cleaned up by water.
- clean the spraying gun with running water.

**NOTE!**

You should clean the machine with the help of water, watesoaked sponge and brush to keep the machine long life.

Do not clean it with high pressure water or vapor, which will permeate into bearings, electric box, socket or other parts.
- clean the material hopper with water.
- open the material hopper and remove all dirty water.
- clean the mortar pump with water.
- clean the material outlet with water.

**Maintenance!**

PLS check the air pump, retard box's oil periodically, you can see how much the oil left from display window, 1/2 high at least is suggested. Fill oil if it is necessary. You can use 32# oil.
N1 Circuit Diagram

NOTE:
- KM:1210 Contactor
- QS: Pressure switch
- SK: Forward/reversion control selector
- FI: 1.2: 10A fuse

Legend:
- A: Air control
- P: Pump
- L: Line control switch
- T: Toggle switch
- S1-S6: Switches
- E1: Motor socket
- S1: Controller
- FI1, FI2: Fuses
- KM: Contactor
- Q5: Switch
- KA1: Relay
## 10. Solutions to Frequent Troubles

<table>
<thead>
<tr>
<th>Troubles</th>
<th>Causes</th>
<th>Resolutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>The fuse is broken.</td>
<td>1. Check whether the specification of the fuse is right.</td>
<td>1. Choose the right fuse according to the power of the motor.</td>
</tr>
<tr>
<td></td>
<td>2. Check whether the output is short-circuited.</td>
<td>2. Check the connection between the driver and the motor.</td>
</tr>
<tr>
<td></td>
<td>3. Check whether the motor matches the driver.</td>
<td>3. Choose a right driver.</td>
</tr>
<tr>
<td>The motor does not work.</td>
<td>1. The input signal is 0V.</td>
<td>1. Adjust the speed potentiometer.</td>
</tr>
<tr>
<td></td>
<td>2. The INHIBIT terminal is closed.</td>
<td>2. Disconnect the INHIBIT terminal.</td>
</tr>
<tr>
<td></td>
<td>4. Check whether the current output is limited.</td>
<td>3. After making sure the locked rotor is not the cause, adjust the TORQUE potentiometer setting.</td>
</tr>
<tr>
<td></td>
<td>5. Check whether the connection is right.</td>
<td>4. Check the connection between driver and motor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(F1 F2: Connected to the motor’s excitation.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(A1 A2: Connected to the motor’s armature.)</td>
</tr>
<tr>
<td>The motor does not stop when the speed potentiometer has been set to the lowest.</td>
<td>MIN SPD is set too high.</td>
<td>Adjust the MIN SPD setting.</td>
</tr>
<tr>
<td>The motor speed is too fast.</td>
<td>1. MAX SPD and MIN SPD are set too high.</td>
<td>1. Adjust the MAX SPD and MIN SPD settings.</td>
</tr>
<tr>
<td></td>
<td>2. The motor lacks excitation voltage.</td>
<td>2. Check the excitation voltage of the motor.</td>
</tr>
<tr>
<td>The motor can not reach the required speed.</td>
<td>1. MAX SPD is set too low.</td>
<td>1. Adjust upward the MAX SPD setting.</td>
</tr>
<tr>
<td></td>
<td>2. IR COMP is set too low.</td>
<td>2. Adjust upward the IR COMP setting.</td>
</tr>
<tr>
<td></td>
<td>3. TORQUE is set too short.</td>
<td>3. Adjust upward the TORQUE setting.</td>
</tr>
<tr>
<td></td>
<td>4. The rotor is locked.</td>
<td>4. Check the load of the motor (Adjust the motor specification if necessary.).</td>
</tr>
<tr>
<td>The motor vibrates after being loaded.</td>
<td>1. IR COMP is set too high.</td>
<td>1. Adjust the IR COMP setting carefully until the motor speed is stable.</td>
</tr>
<tr>
<td></td>
<td>2. Current limit has not been set.</td>
<td>2. After making sure that the motor matches the driver, adjust the TORQUE setting.</td>
</tr>
<tr>
<td>The motor runs reversely.</td>
<td>(A1 A2)+ —terminals are connected inversely.</td>
<td>Exchange the (A1 A2)+ —terminals.</td>
</tr>
<tr>
<td>The motor speed rises after being loaded.</td>
<td>IR COMP is set too high.</td>
<td>Adjust downward the IR COMP setting.</td>
</tr>
<tr>
<td>The motor speed falls after being loaded.</td>
<td>IR COMP is set too low.</td>
<td>Adjust upward the IR COMP setting.</td>
</tr>
</tbody>
</table>
Product Assembly Diagram

1.  
2.  
3.  
4.  
5.  
6.  
7.  
8.  
9.  
10.  
11.  
12.  
### Product Assembly Diagram

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Quantity</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>00 00 09 01</td>
<td>motor shaft connector</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>00 00 09 11</td>
<td>air mix gun with extension bar</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>00 00 72 38</td>
<td>hopper</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>00 04 78 93</td>
<td>quick connector</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>00 00 09 21</td>
<td>manual operation wire</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>00 00 09 31</td>
<td>air hose</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>00 00 09 41</td>
<td>high pressure hose</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>20 13 97 08</td>
<td>motor</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>20 11 87 11</td>
<td>stirrer</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>00 00 09 51</td>
<td>twister set screw</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>00 00 09 61</td>
<td>twister</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>00 00 09 71</td>
<td>long pole gun</td>
</tr>
</tbody>
</table>