



## DATA SHEET

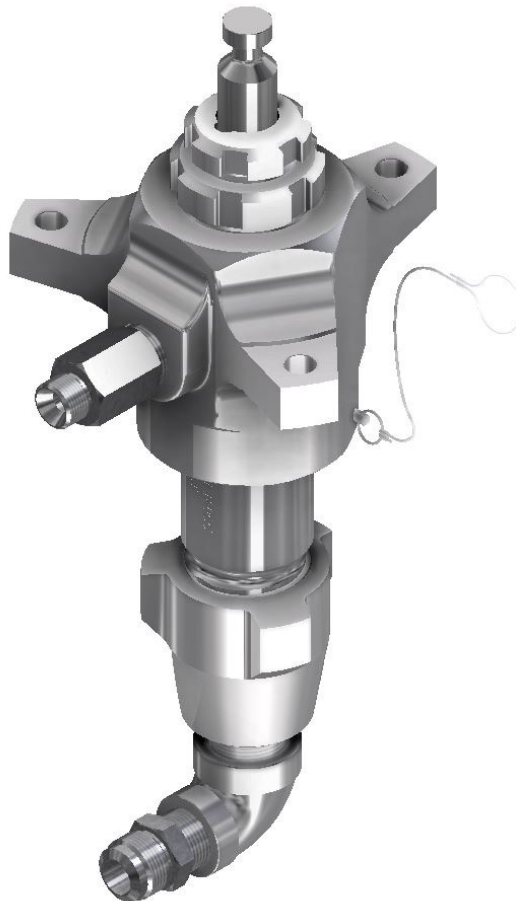
**MODEL: NOVABLAST AIRLESS PAINTING PUMP 68:1**

### 68:1 Ratio Pump

*6800 psi (46.9 MPa, 468 bar) Maximum Fluid Working Pressure*

*275 psi (0.7 MPa, 7 bar) Maximum Air Input Pressure*

**Displacement pump (Lower Assembly)**



**This manual contains important warning and information.  
Read and keep reference.**




# WARNING



## INJECTION HAZARD

Spray from the spray gun, hose leaks or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Splashing fluid in the eyes or on the skin can also cause serious injury.

- Fluid injected into the skin is a serious injury. The injury may look like just a cut, but it is a serious injury. **Get immediate medical attention.**
- Do not point the gun at anyone or any part of the body.
- Do not put hand or fingers over the spray tip.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Do not "blow back" fluid; this is not an air spray system.
- Always have the tip guard on the spray gun when spraying.
- Check the spray gun diffuser (if so equipped) operation weekly. Refer to the gun manual.
- Be sure the spray gun safety knob operates before operating the gun.
- Lock the spray gun safety knob when you stop spraying.
- Tighten all fluid connections before each use.
- Check the hoses, tubes and couplings daily. Replace worn or damaged parts immediately. Permanently coupled hoses cannot be repaired.
- Handle and route hoses and tubes carefully. Keep hoses and tubes away from moving parts and hot surfaces. Do not use the hoses to pull equipment. Do not expose NOVABLAST hoses to temperatures above 150 °F (66°C) or below -40 °F (-40 °C).



## TOXIC FLUID HAZARD

Hazardous fluids or toxic fumes can cause a serious injury or death if splashed in the eyes or on the skin, inhaled, or swallowed.

- Know the specific hazards of the fluid you are using.
- Store hazardous fluid in an approved container. Dispose hazardous fluid according to all local, state and national guidelines.
- Always wear protective eyewear, gloves, clothing and recommended by the fluid and solvent manufacturer.



## MOVING PARTS HAZARD

Moving parts, such as the air motor piston and the secondary pump lever and connecting rod area, can pinch or amputate fingers.

- Do not operate the equipment with the air motor plates removed.
- Keep your body and tools clear of any moving parts when starting or operating the equipment.



## EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture, malfunction, or start unexpectedly and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are uncertain about the usage, call your distributor.
- Do not alter or modify this equipment. Use only genuine NOVABLAST parts and accessories.
- Check the equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated system component. This equipment as a 5000 psi (345 bar) maximum working pressure.
- Do not lift pressurized equipment.
- Route the hoses away from the traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose NOVABLAST hoses to temperatures above 150 °F (66 °C) or below -40 °F (-40 °C).
- Do not use the hoses to pull the equipment.
- Use fluids or solvents that are compatible with the equipment wetted parts. See the Technical Data section of all the equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Fluid hoses must have spring guards on both ends to protect them from rupture caused by kinks or bends near the couplings.
- Comply with all applicable local, state and national fire, electrical and other safety regulations.



## FIRE AND EXPLOSION HAZARD

Improper grounding, poor air ventilation, open flames, or sparks can cause a hazardous condition and result in fire or explosion and serious injury.

- Ground the equipment and the object being sprayed.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvent or the fluid being sprayed.
- Extinguish all the open flames or pilot lights in the spray area.
- Electrically disconnect all the equipment in the spray area.
- Keep the spray area free of debris, including solvent, rags, and gasoline.
- Do not turn on or off any light switch in the spray area while operating or if fumes are present.
- Do not smoke in the spray area.
- Do not operate a gasoline engine in the spray area.
- If there is any static sparking while using the equipment, **stop spraying immediately**. Identify and correct the problem.



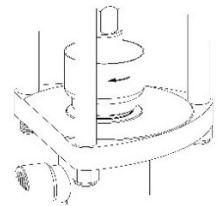
## OPERATION

1. Lock the spray gun trigger safety.
2. Close the red-handed bleed-type master air valve.
3. Unlock the gun trigger safety.
4. Hold a metal part of the gun firmly to the side of a grounded metal pail, and trigger the gun to relieve pressure.
5. Lock the gun trigger safety.
6. Open the drain valve having a container ready to catch the drainage.
7. Leave the drain valve open until you are ready to spray again.

If you suspect that the spray tip or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, very slowly loosen the tip guard retaining nut or hose end coupling and relieve pressure gradually, then loosen completely. Now clear the tip or hose.

### Packing nut / wet-cup

Before starting, fill the packing nut  $\frac{1}{3}$  full with TSL or compatible solvent. To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the pressure relief procedure. The packing nut is torqued at the factory and is ready for operation. If it becomes loose and there is leaking from the throat packings, relieve pressure, then torque the nut to 136-149N.m using a wrench. Do this whenever necessary. Do not over tighten the packing nut.



### Flush the Pump Before first Using

The pump is tested with lightweight motor oil, which is left in to protect the pump parts. If the fluid you are using may be contaminated by the oil, flush it out with a compatible solvent before using the pump. If the pump is being used to supply a circulating system, allow the solvent to circulate until the pump is thoroughly flushed.

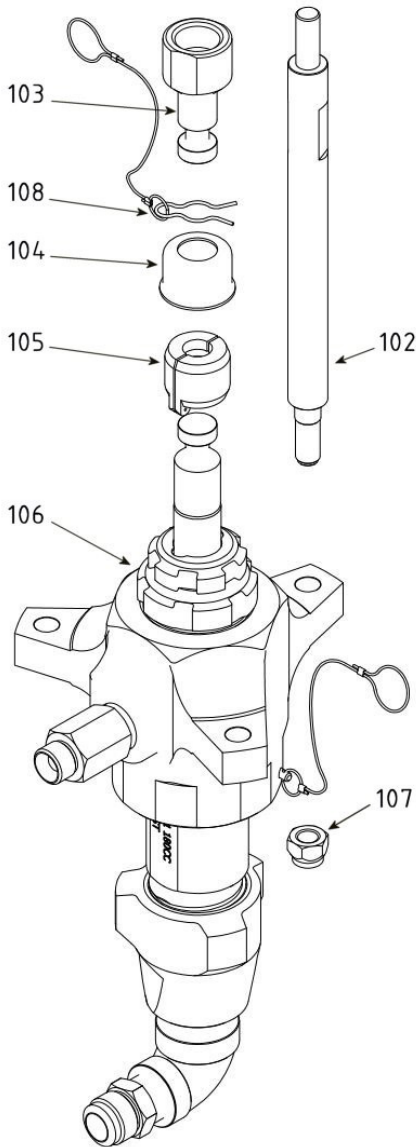
Flush the pump:

- Before the first use.
- When changing colors or fluids.
- Before fluid can dry or settle out in a dormant pump (check the pot life of catalyzed fluids).
- Before storing the pump.

Flush with a fluid that is compatible with fluid you are pumping and with the wetted parts in your system. Check with a fluid manufacturer or supplier for recommended flushing fluids and flushing frequency.



## PARTS DRAWING & PARTS LIST



#	ITEM NO.	DESCRIPTION	QTY
102	81931101	ROD, TIE	3
103	81931102	ADAPTER	1
104	81931103	COVER	1
105	81931104	COUPLING	1
106	81681105	DIS. PUMP	1
107	81931106	NUT	3
108	81931107	CLIP, HAIRPIN	1

### DISCONNECTING THE DISPLACEMENT PUMP

1. Flush the pump if possible. Stop the pump at the bottom of its stroke.  
**Relieve the pressure.**
2. Disconnect the air and fluid hoses. Remove the pump from its mounting.
3. Unscrew the coupling nut off of the air motor piston rod.  
Be Carefully not to lose the two couplers as you lower the nut. Unscrew the tie rod locknuts from the tie rods. Carefully pull the displacement pump away from the air motor.
4. To service the displacement pump, refer to displacement pump service.

### RECONNECTING THE DISPLACEMENT PUMP

1. Align the pump's fluid outlet to the optional fluid outlet of the air motor. Position the displacement pump on the tie rod.
2. Make sure the couplers are in place inside the coupling nut. Screw the coupling nut up onto the air motor piston rod snugly. Screw the locknut onto the tie rods loosely.
3. Mount the pump and reconnect all hoses. Reconnect the ground wire if it was disconnected during repair.
4. Tighten the tie rod locknuts evenly, and torque to 40-50ft-lb (54-68 N.m). Torque the coupling nut to 145-155 ft-lb (195-210 N.m).
5. Start the pump and run it slowly, at about 40 psi (280 kPa, 2.8 bar) air pressure, to check the tie rods for signs of binding. Adjust the tie rods as necessary to eliminate binding. Tighten the packing nut/wet-cup with the wrench supplied. Fill the wet-cup half full with throat seal liquid or compatible solvent.

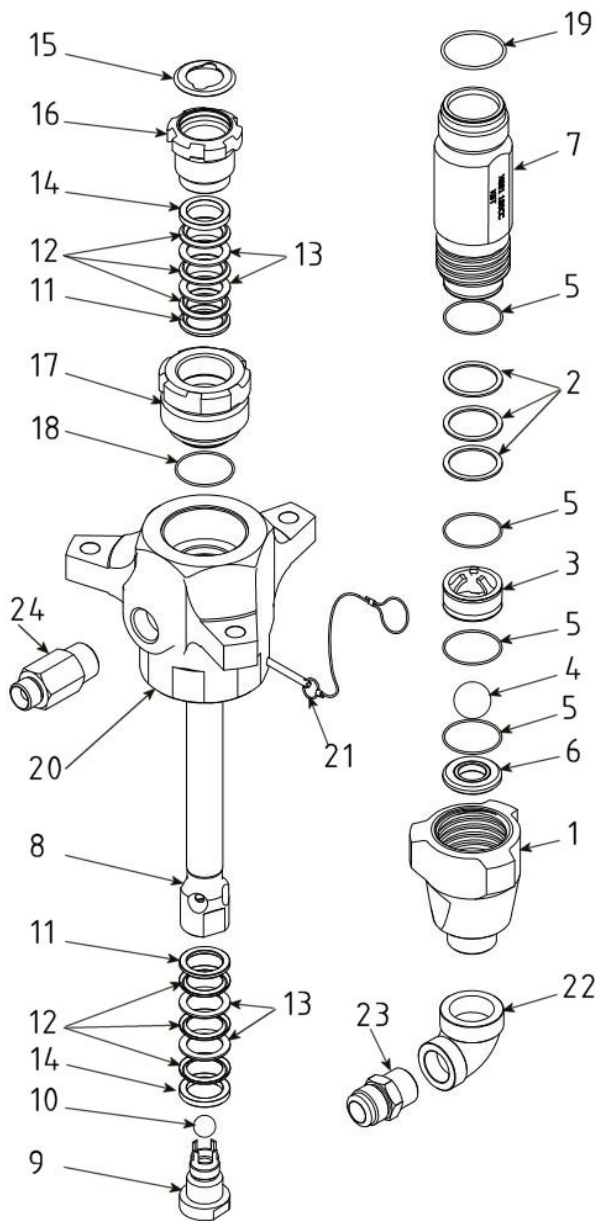
## PARTS DRAWING & PARTS LIST

### 180 CC PUMP

**Note: parts marked in color are the spare parts**

\*These parts are included in repair kit which may be purchased separately.

**Always use genuine parts**

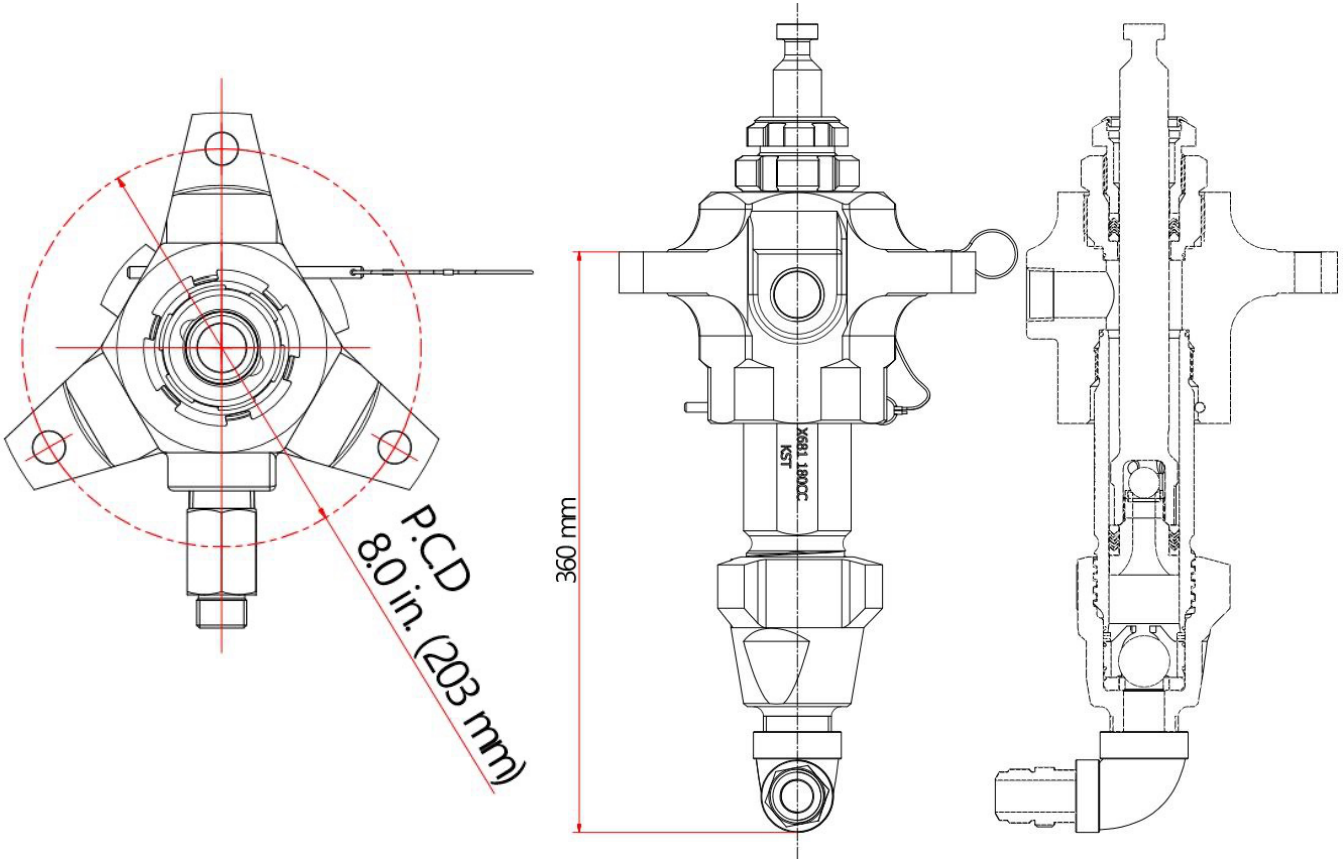


#	ITEM NO.	DESCRIPTION	QTY
1	81681009	HOUSING, INLET	1
2	81681010	SHIM	3
3	81681011	BALL GUIDE	1
4*	81681012	BALL	1
5*	81681013	PACKING, O-RING	4
6	81681014	SEAT	1
7	81681015	CYLINDER	1
8	81681016	DISPLACEMENT ROD	1
9	81681017	PISTON VALVE	1
10*	81681018	BALL	1
11*	81681019	GLAND-M	1
12*	81681020	PACKING-V, UHMWPE	3
13*	81681021	PACKING-V, LEATHER	2
14*	81681022	GLAND-F	1
15*	81681023	SEAL	1
16	81681024	PACKING NUT	1
17	81681025	CARTRIDGE	1
18*	81681026	PACKING, O-RING	1
19*	81681027	PACKING, O-RING	1
20	81681028	HOUSING	1
21	81681029	PIN	1
22	81681030	TUBE	1
23	81681031	NIPPLE, (PT1")	1
24	81681032	NIPPLE, (PT1*PF 3/4)	1

**\*81681033 Repair Kit - Parts marked in color are included.**



CATEGORY	K-TYPE AIR MOTOR	B-TYPE AIR MOTOR
	180cc X681	
<b>MAXIMUM FLUID WORKING PRESSURE</b>	46.9 MPa, 468 bar	22.8 MPa, 228 bar
<b>MAXIMUM AIR INPUT PRESSURE</b>	0.7 MPa 7 bar	
<b>RATIO</b>	68:1	33:1
<b>AIR INLET SIZE</b>	<sup>3</sup> / <sub>4</sub> in. npt(f)	
<b>FLUID INLET SIZE</b>	1 <sup>1</sup> / <sub>4</sub> in. npt	
<b>DISPLACEMENT PER CYCLE</b>	180 ccc	
<b>FLUID FLOW AT 60 CYCLES PER MINUTE</b>	2.9 / 11 Gal. / Ltr.	
<b>MAXIMUM OPERATING TEMPERATURE</b>	82 °C (180 °F)	
<b>WETTED PARTS</b>	Carbon Steel; Alloy Steel; S45C, 415, 440: Zinc and Nickel Plating; Ductile Iron; Tungsten Carbide; PTFE; Leather	



## NOVABLAST STANDARD WARRANTY

NOVABLAST warrants all equipment referenced in this document manufactured by NOVABLAST and bearing its name to be free from defects in material and craft on the date of sale to the original purchaser for use. Except for any unique, extended, or limited warranty published by NOVABLAST, NOVABLAST will, for twelve months from the date of sale, repair or replace any part of the equipment determined by NOVABLAST to be defective. This warranty applies when installed equipment is operated and maintained following NOVABLAST written recommendations.

This warranty neither covers nor places liability on NOVABLAST for general wear and tear or any malfunction, damage, or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-NOVABLAST parts. This includes incidents caused by the incompatibility of NOVABLAST equipment with structures, accessories, equipment, or materials not supplied by NOVABLAST, or the improper design, manufacture, installation, operation, or maintenance of systems, accessories, equipment, or materials not provided by NOVABLAST.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized NOVABLAST distributor for verification of the claimed defect. If the claimed defect is verified, NOVABLAST will repair or replace any faulty parts free of charge. The equipment will be returned to the original purchaser transportation prepaid. Suppose equipment inspection does not disclose any defect in material or craft. In that case, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

**THIS WARRANTY IS EXCLUSIVE AND IS IN PLACE OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

NOVABLAST's sole obligation and buyer's remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other cure (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within one (1) year of the date of sale.

**NOVABLAST MAKES NO WARRANTY AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS, OR COMPONENTS SOLD BUT NOT MANUFACTURED BY NOVABLAST.**

These items sold, but not manufactured by NOVABLAST (such as electric motors, switches, hose, etc.), are subject to their manufacturer's warranty, if any. NOVABLAST will provide the purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will NOVABLAST be liable for indirect, incidental, special, or consequential damages resulting from NOVABLAST supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of NOVABLAST, or otherwise.

## NOVABLAST INFORMATION

**TO PLACE AN ORDER OR FOR SERVICE** contact your NOVABLAST distributor or call +31 (0)85 444 48 90 to identify the nearest distributor.