

This document provides instructions for unpacking, inspecting, connecting, operating and maintaining your External Pump Pack from Teledyne API (TAPI). Your pump is intended for use in supplying vacuum to an instrument.

**SAFETY FIRST**

**⚠ CAUTION – INSTALLATION AND COMMISSIONING RISKS AND HAZARDS**

This product should only be installed, commissioned, and used strictly for the purpose and in the manner described in this manual. If you improperly install, commission, or use this instrument in any manner other than as instructed in this manual or by our Technical Support team, unpredictable behavior could ensue with possible hazardous consequences.

Such risks, whether during installation and commission or caused by improper installation/commissioning/use, and their possible hazardous outcomes include but are not limited to:

RISK	HAZARD
Liquid or dust/debris ingress	Electrical shock hazard
Improper or worn power cable	Electrical shock or fire hazard
Excessive pressure from improper gas bottle connections	Explosion and projectile hazard
Sampling combustible gas(es)	Explosion and fire hazard
Improper lift & carry techniques	Personal injury

Note that the safety of a system that may incorporate this product is the end user’s responsibility.

**⚠ DANGER – RISK OF SERIOUS INJURY OR DEATH**

- Do NOT pump flammable or explosive gases; pump only clean, dry air.
- Do NOT use in an area that contains flammable or explosive gases.
- Use pump pack only in Teledyne API approved pneumatic configurations.
- If ozone is generated in the gas train, an ozone destruct must be installed before the gas enters the scrubber.

**⚡ WARNING – ELECTRICAL SHOCK HAZARD**

- Use only the electrical cord provided by TAPI, which was built to carry the power rating of the pump, and do NOT modify the plug.
- Do not defeat the earth ground connection that is built into the assembly.
- Keep water or other liquids away from unit.
- Always maintain access to disconnect power from the pump.

**⚠ CAUTION – AVOID PERSONAL INJURY OR DAMAGE TO INSTRUMENT**

- Install this unit only where it will be protected from weather.
- Provide adequate clearance to prevent the unit from overheating and to protect all surrounding items from exhaust air, which can be hot.
- Wear proper eye protection to avoid injury from solid or liquid material that may be contained in air stream.
- Wear hearing protection to avoid damage from motor’s sound level which may exceed 70 dBA.
- Do not operate outside of cover in which the pump motor is enclosed.
- Operate within specified temperature range, 5°C – 40°C

- Keep away any corrosive gases, particulate material, water vapor, oil-based contaminants or other liquids from unit.
- When not in use, follow SHUTDOWN AND STORAGE procedures provided herein.
- Defer to instrument operating manual regarding specific recommendations on venting pump exhaust.

**⚡ CAUTION – HOT SURFACE**

- Surface can become very hot during operation; unplug pump and allow to cool before handling.

**SPECIFICATIONS**

POWER	RATING			TYPICAL POWER CONSUMPTION	
		SINGLE	DUAL	SINGLE	DUAL
	115 V~ 60 Hz	3.0 A	3.5 A	165 W	177 W
	220-240 V~ 50/60 Hz	3.0 A	1.1 A	165 W	177 W
OPERATING TEMPERATURE	SINGLE: 5°C – 40°C		DUAL: 10°C – 40°C		
WEIGHT	SINGLE: 21 lbs (9.5 kg)		DUAL: 23 lbs (10.5 kg)		
HUMIDITY RANGE	20-80% RH non-condensing				
ENVIRONMENTAL CONDITIONS	Installation Category (Over voltage Category) II Pollution Degree 2. Indoor use only, at ≤ 2000 m altitude				

**APPROVALS**

This product is CE compliant and adheres to the Low Voltage and Electromagnetic Compatibility Directives.

**UNPACK AND INSPECT CONTENTS**

Verify that there is no apparent external shipping damage to the pump assembly. If damage has occurred, please advise the shipper first, then Teledyne API.

**INSTALLATION/SETUP/ELECTRICAL CONNECTIONS**

Adhere to all cautionary messages in the “SAFETY FIRST” section of this manual when installing, setting up and connecting your pump.

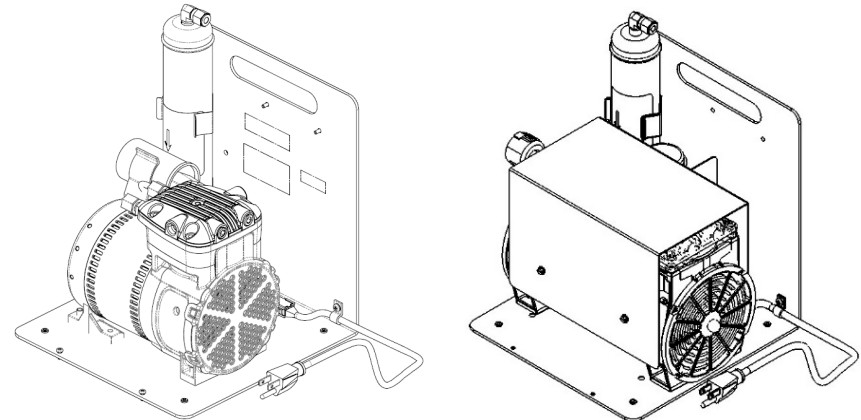


Figure 1. Single Pump (left), Dual Pump (right; requires shroud)



The correctly wired power cord was included in your shipment; do not use any other cord.

- For United States: the power cord is assembled and ready for use; do not modify it.
- For EU countries: do not modify the power cord except to attach a CE-approved plug using BS 7671 IEC standards. Ground (Green), Neutral (Blue) and Live (Brown) wires.

There is no ON/OFF switch: the pump begins running when its power cord is plugged into an electrical outlet.

1. Mount on a rigid operating surface.
2. Connect pump tubing from intake valve of filter or scrubber cartridge to instrument exhaust.
3. Ensure that an exhaust line from pump exhaust port is vented according to the instrument's operation manual.
4. Plug cord into an electrical outlet to start motor.

## OPERATION

Adhere to all cautionary messages in the "SAFETY FIRST" section of this manual when operating your pump.

## SHUTDOWN AND STORAGE

To prevent pump damage, follow these shutdown and storage procedures:

1. Disconnect plumbing.
2. Run pump at least 5 minutes without plumbing.
3. Disconnect power cord from electrical outlet.
4. Store in clean, dust-free, moisture-free environment.

## MAINTENANCE & TROUBLESHOOTING

NEVER ADD OIL TO THIS OIL-LESS PUMP.



### FOR QUALIFIED MAINTENANCE PERSONNEL ONLY

- Heed all cautionary messages in the "SAFETY FIRST" section of this manual.
- Disconnect power, vent all lines, and allow the pump pack to cool before inspecting or performing maintenance on it.

## CHANGING THE FILTER OR SCRUBBER

Whether your pump is equipped with a filter (FL49) or a scrubber (FL34), either one is provided in a self-contained, replaceable cartridge that requires changing as necessary.

See instrument manual for planned maintenance intervals and requirements.

1. Disconnect power to instrument.
2. Vent all air lines.
3. Allow unit, including scrubber, to cool enough to safely touch.
4. Remove four screws from cover to gain access to the filter or scrubber cartridge.
5. Swap used cartridge with new, and dispose of the used cartridge in accordance with local regulations.
6. Reinstall cover.

## REBUILDING THE PUMP

When pump vacuum or flow is not satisfactory, rebuild pump with the applicable rebuild kit. (Reference the pump rebuild kit part number that is printed on the pump's label, when contacting Sales). Instructions are included with each kit. See instrument manual for pressure/vacuum/flow warning limits.

## TROUBLESHOOTING

Refer to instrument operating manual for troubleshooting guidance.

## TECHNICAL SUPPORT

**Teledyne API Technical Support**  
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