



User and Maintenance Manual

Zephyr III

Pulse-Cleaned Portable Dust and Fume Collector

I.	GENERAL INFORMATION	3
II.	PURPOSE	3
III.	TECHNICAL DATA	3
IV.	CONSTRUCTION OVERVIEW	6
V.	USAGE AND MAINTENANCE	7
VI.	FILTER CHANGE AND ACCESS	8
VII.	STANDARD SPARE PARTS	10
VIII.	TROUBLESHOOTING	10
IX.	SAFETY GUIDELINES	10
X.	STORING INSTRUCTION	10
XI.	ELECTRIC BOX - HOW TO?	11



I. GENERAL INFORMATION

This manual is designed to inform the user about the proper assembly and use of the Zephyr III. The user should be fully acquainted with the contents of the manual before assembly or installation of this unit. This manual contains basic technical data of the Zephyr III filtering unit and necessary information about installation, start up and use of this product. Before assembly and use of this filter unit, the owner/operator should read this manual carefully to fully understand the Zephyr III construction, the principles of its operation, as well as its service and safety features.

The manufacturer reserves the right to make design and technological changes, which may improve the product. The manufacturer assumes no responsibility if this device is not used according to this manual. Using the Zephyr III in accordance with this manual will ensure proper assembly and permit safe, efficient operation.

II. PURPOSE

The Zephyr III filtering unit is designed to exhaust and filter the air of dry impurities arising during welding, grinding, polishing and cutting of metals and plastics. Due to its high effectiveness of air cleaning, exhausted air can be returned to the workplace, except in the cases when asbestos, beryllium or cadmium is present. In these instances, filtered air should be exhausted outside of the workplace. The Zephyr III cannot be used for filtering wet dust. In this case, the cartridges will clog very fast, making further work inefficient. The Zephyr III is not recommended for filtering the air from corrosive, caustic and explosive gases and dusts. The Zephyr III is designed to work with a fume arm with a diameter of 6" (160mm) and lengths of 7' (2m) or 10' (3m). Use of other fume arms or connecting directly to ducting with proper connectors is also possible.

III. TECHNICAL DATA

Unit model name: Zephyr III	Unit	
Airflow with arm at hood of arm	[cfm] / [m ³ /h]	700 / 1150
Weight 1 (without arm)	[lb] / [kg]	275 / 125
Weight 2 (with arm)	[lb] / [kg]	320 / 145
Motor power supply (voltage)	[V] / [Hz]	110 / 50 single phase
Motor power	[HP] / [kW]	1 / 0,75
Noise level at 5 ft (1,5 m)	[dB (A)]	75
Cabinet finish	-	powder coating
Fume Arm	-	6"dia x 10'
Compressed air connection	-	¼" NPT
	[psi] / [bar]	73 - 80 / 5 - 5,5
Compressed air tank capacity	[Gallons] / [l]	2.5 / 10
Waste drawer capacity	[Gallons] / [l]	2.5 / 10

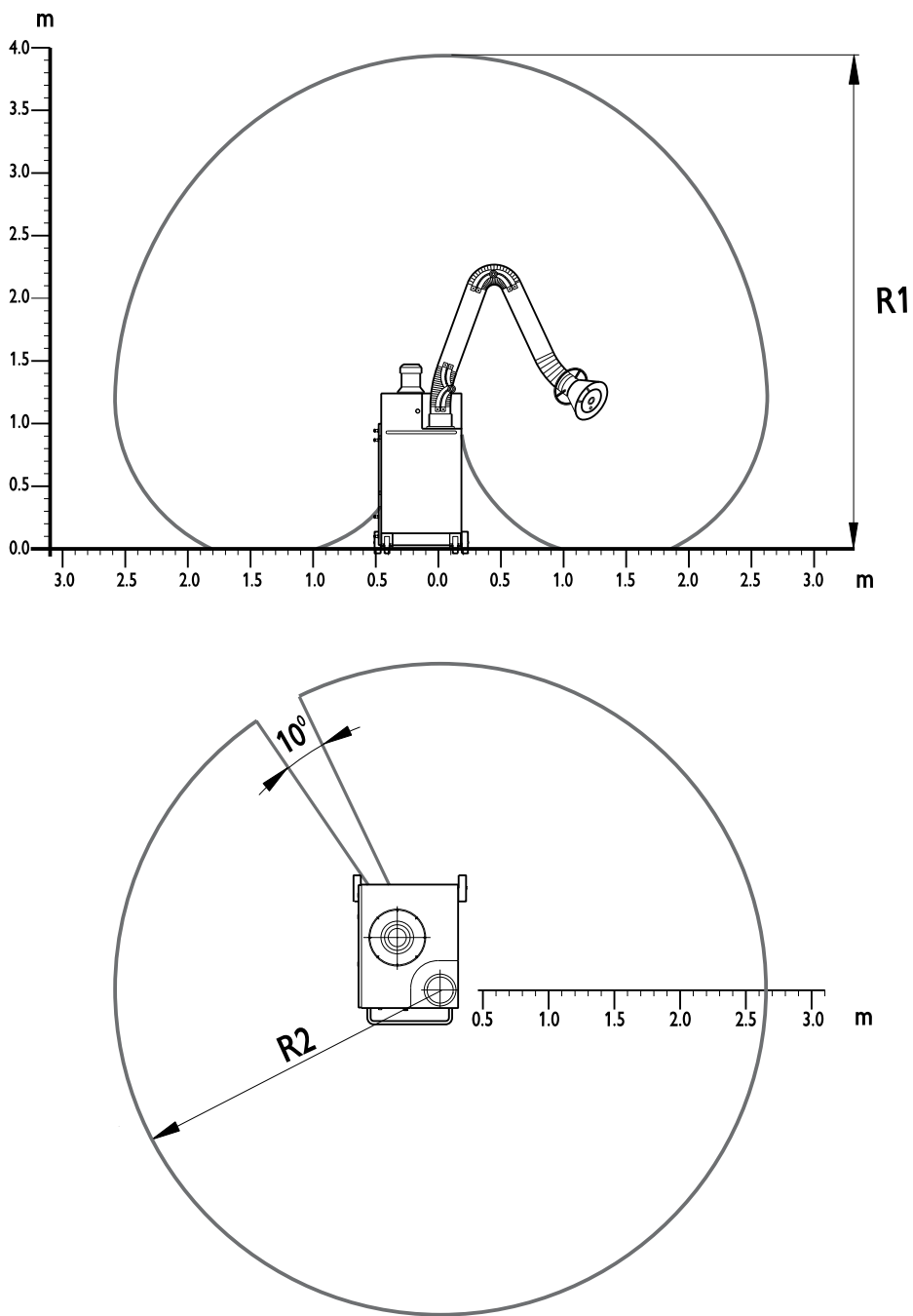


Fig. 1. Working area

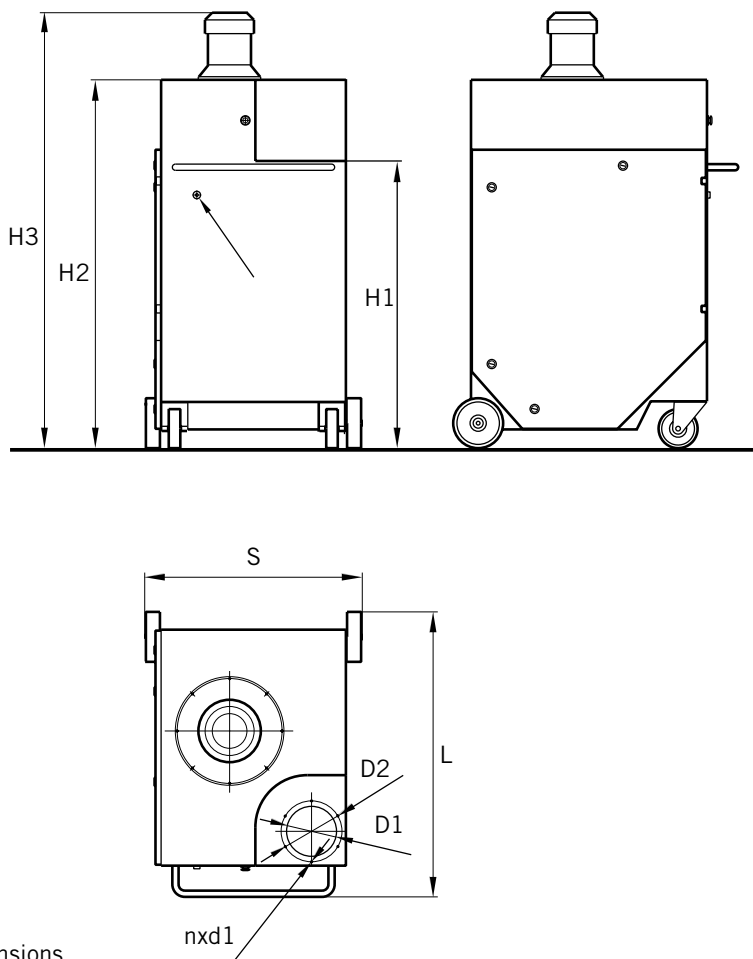


Fig. 2. Dimensions

Dimensions	Unit	
L	[in] / [mm]	34.92 / 887
S	[in] / [mm]	29.21 / 742
H1	[in] / [mm]	36.30 / 922
H2	[in] / [mm]	46.53 / 1182
H3	[in] / [mm]	55.12 / 1400
D1	[in] / [mm]	6 / 160
D2	[in] / [mm]	7.68 / 195
n1	-	6
d2	[in] / [mm]	M6 metric tread
d3	[in]	¼" NPT
R1 (for 1630P)	[ft.] / [m]	13 / 4.04
R2 (for 1630P)	[ft.] / [m]	9 / 2,8

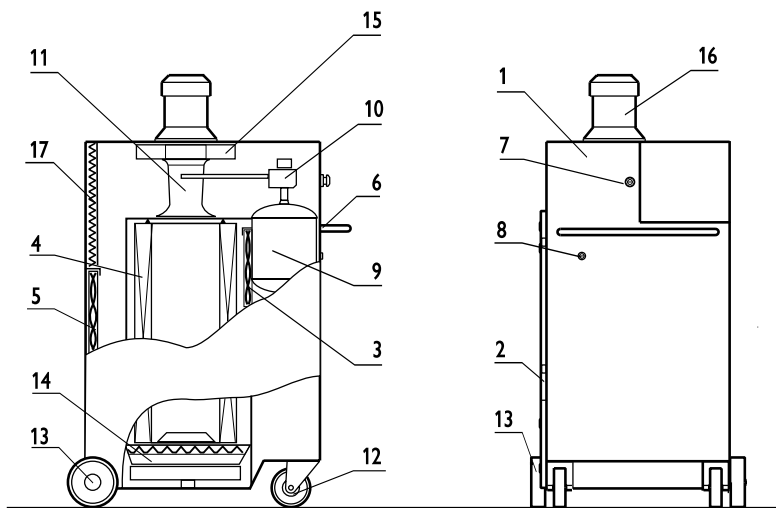
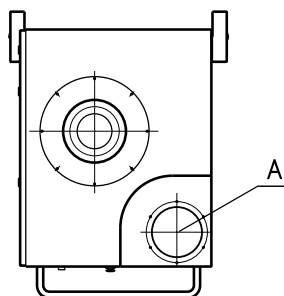


Fig. 3. Zephyr III construction

IV. CONSTRUCTION OVERVIEW

1. Housing –steel, welded construction, painted with polyester-epoxy, powder paint.
2. Door – allows easy access to the filters and for waste drawer access; four twist locks on the edges provides a tightly closed door
3. Preliminary, metal filter – acts as spark protection for cartridge, first step of filtration
4. Cartridge - main filtering cartridge
5. Carbon filter
6. Handle
7. Button – pulse cleaning of cartridge
8. Pressured air connection ($\frac{1}{4}$ "NPT)
9. Pressured air tank
10. Pneumatic pulse valve



11. Nozzle
12. Swivel Castor wheel with foot brake
13. Wheel
14. For waste drawer – equipped with grid, mounted on rails;
15. Impeller – aluminium construction, backward curved blades
16. Motor
17. Noise reducing foam insulation

Each unit is equipped with thermal overload protection with reset for the motor

V. USAGE AND MAINTENANCE

Before starting the unit, the fume arm should be mounted (see fig. 5). Note – turn stopper must be mounted on the same side as the cabinet. In place of fume arm, connector can be mounted to connect the Zephyr III to ducting – mounting the same way as the fume arm. Next, connect the compressed air – ¼"NPT. The compressed air should be free of oil, water, and clean (filter 10m). Using the cord with a plug connect the unit to the nearest socket. After checking if all elements are correctly mounted (cartridges, fume arm, compressed air), the unit can be started. Start the switch on the motor. Check the proper rotation of impeller (see an arrow on the motor housing).

- 1) Mount the Fume Arm. Make sure safety stop is facing the cabinet.
- 2) Connect the compressed air - 1/4" NPT. Compressed air should be clean and without oil.
- 3) Plug Unit in and turn on
- 4) Make sure proper rotation for fan

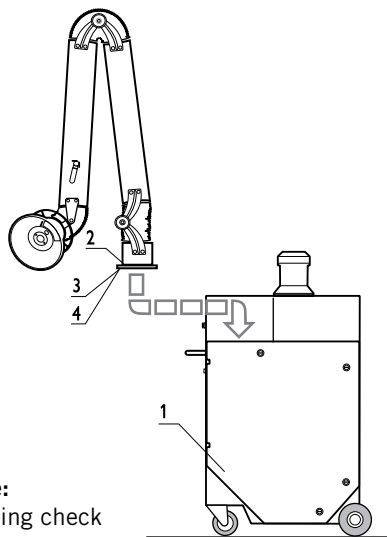


Fig. 5 Mounting of fume arm

Standard maintenance of unit should include:

1. Arm and compressed air connections sealing check
2. Main cartridge filters pulse cleaning
3. Periodical emptying of waste drawer (depends on the application load)
4. Cleaning the cartridge after shutting off the unit should be provided on a daily basis.

If the pulse cleaning is not effective when the cartridges may be clogged with dust cake. In this case the differential pressure is high and the main filter stage cartridges should be taken out and cleaned manually. See Section V.

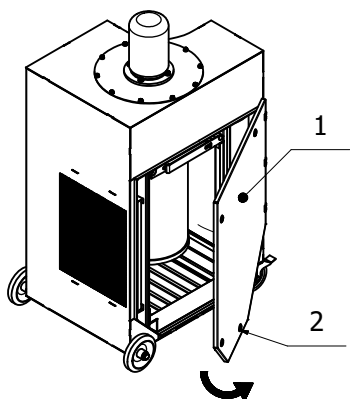
Cartridge pulse cleaning

- 1) Connect compressed air hose to the unit
- 2) Fill the reserve air tank with compressed air
- 3) Once tank is full you can either remove the compressed air hose or keep it attached
- 4) Turn motor and fan off
- 5) Push manual button on top of the unit
- 6) Cleaning should be done every time the unit is turned off.

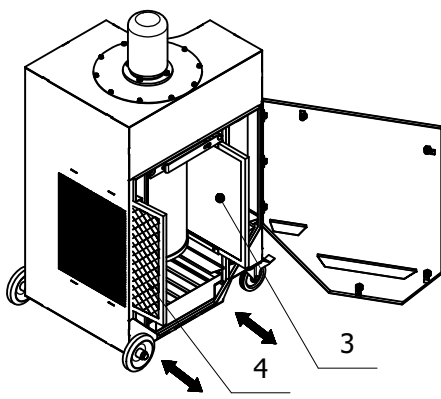
Main cartridge life-time

To increase cartridge life it is recommended to take the cartridges out and clean them outside the unit with a soft brush or other industrial vacuum and to wash them on a periodic basis (assuming you have purchased with our standard washable polyester cartridge). Allow filters to thoroughly dry before re-using.

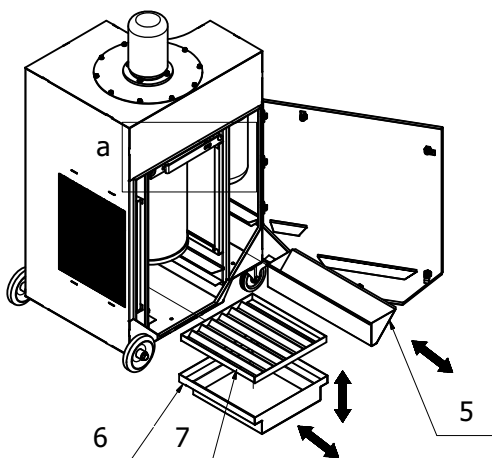
VI. FILTER CHANGE AND ACCESS



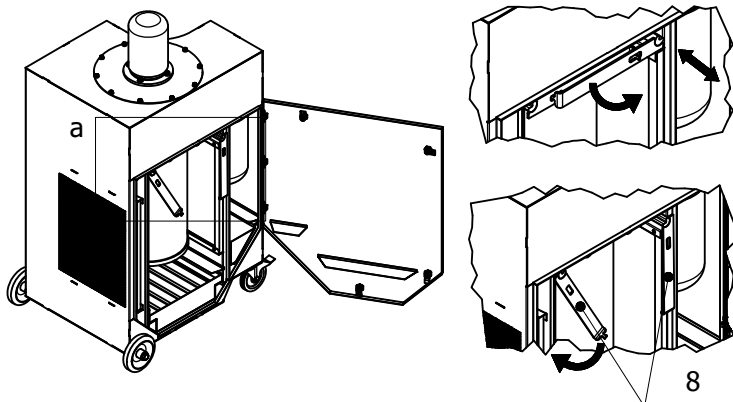
1. UNLOCK ALL DOOR LOCKS
AND OPEN DOOR.



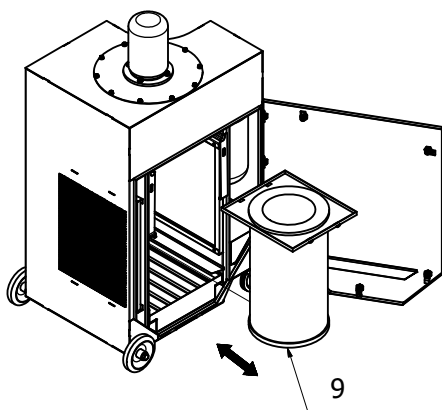
2. PULL OUT PRE-FILTER AND AFTER
FILTER FOR CLEANING (IF NECESSARY)



3. PULL OUT DUST TRAYS AND REMOVE
GRID TO CLEAN THEM OUT.



4. PULL THE OUTER HANDLE TOWARD YOURSELF TO UNLOCK THE LOCKING MECHANISM PUSH THE INNER HANDLE AWAY FROM YOURSELF TO RELEASE THE CARTRIDGE.



5. SLIDE OUT THE DIRTY CARTRIDGE TO CLEAN IT OR REPLACE IT.

Filter Technical Data		
Preliminary		Metal mesh
Quantity	[pcs]	1
Dimensions	[in] / [mm]	21x17x0.8 / 540x440x20
Filtering efficiency	[-]	G2
Cartridge		
Quantity	[pcs]	1
Dimensions	[in] / [mm]	12.8x26 / 325x660
Filtering efficiency	[-]	USGC
Outlet:		
Quantity	[pcs]	1
Dimensions	[in] / [mm]	28x21x0.8 / 720x540x20

VII. STANDARD SPARE PARTS

PART DESCRIPTION	AMOUNT
Housing with fan unit and compressed air system	1
Preliminary filter	1
Main filter stage cartridge	1
Outlet filter	1
Control unit (if necessary)	1

VIII. TROUBLESHOOTING

SYMPTOMS	POSSIBLE REASONS	SOLUTION
Low air volume		
The airflow suddenly stops or reduces	Arm or Filter are clogged	Check Arm or filter box for possible blockage
Impurities pass through all filters		Check sealing of filters Replace with a new one
Loud rubbing noise while switching fan on		Filter/cartridge was not properly inserted - top

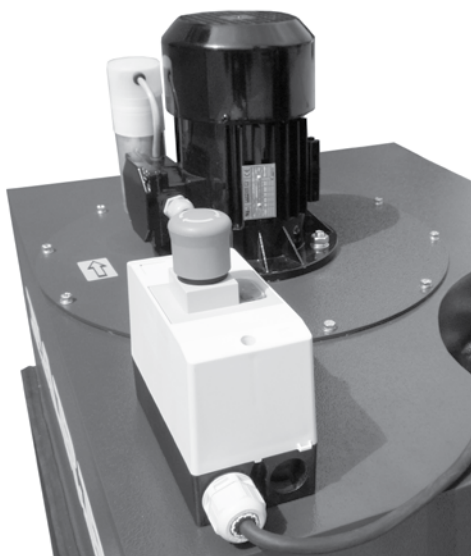
IX. SAFETY GUIDELINES

Use and maintenance of the filter can be done only after careful study of this manual. It is important to periodically check the electrical and grounding connection. Do not use filter unit with any parts open. Before working on interior of the filter unit disconnect it from power supply and compressed air system. Do not use filter unit with corrosive, caustic or explosive gases.

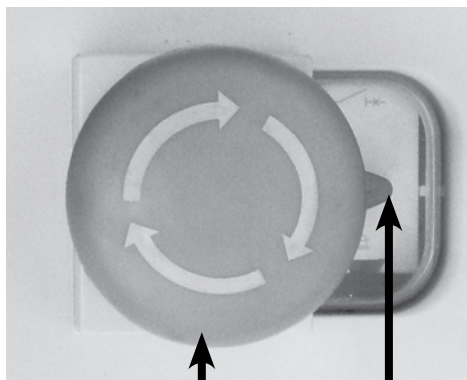
X. STORAGE INSTRUCTION

Zephyr III should be stored in dry and air permeable areas. The product should be stored upright. Do not store it horizontally (on a side). Do not stack. During transportation and storage prevent the filter from moving (lock the wheels). Use protection (paperboard or other materials) to prevent damage to the paint coat.

XI. ELECTRIC BOX - HOW TO?



Zephyr III has been equipped with overload protection and safety switch. To safely run Your unit use black button inside the electric box. Black button is accessible through the small window on the right of the safety button. To stop fan operation simply use safety button by pressing it downwards.



After pressing the safety button electric box has been protected from accidental starting of the unit again. To release blocking mechanism simply turn the safety button in the direction shown by arrows. You can now use black button inside the electric box.

START BUTTON

STOP BUTTON - TURN TO RELEASE AFTER USE



AIR POLLUTION CONTROL

3505 South Airport Rd. • Jonesboro, AR 72401
Phone: (800) 479-6801 • Fax: (870) 933-8381
www.farrapc.com