# SPRAYING TECHNOLOGIES SINCE 1997



# ROTARY ATOMIZERS

# ACCURACY AND EFFICIENCY FOR CONTROLLING THE DROPLET SPECTRUM









The spraying with rotary atomizers offers the operator a wide range of application volumes, from ultra low volume (ULV) to conventional applications, with uniform drop diameters and easy adjustment, giving greater efficiency and economy in the spray of liquid products.

Result of a long period of research and development, the Zanoni rotary atomizer started to be produced about three years ago, with very positive feedback from the Brazilian and South American fleet, where hundreds of them already in operation on larger and smaller aircraft.

Precisely designed to meet the demands of the ag aviation industry for more efficient and resistant products, it has an stainless steel structure, with bigger bearings and more resistant gauzes than other brands, in diverse options of meshes. The anti-drip system (diaphragm check valve) and the variable restrictor unit (VRU) are also manufactured in stainless steel, with high durability and an easy repair.

In the last crop season, Zanoni Equipamentos also launched a M14 wire mesh, offering an even wider spectrum of droplet sizes. Several agronomists have praised its performance, highlighting the operation of the VRU, the uniformity of the drops and the effect of the deflector disc.

#### **ROTARY ATOMIZERS**



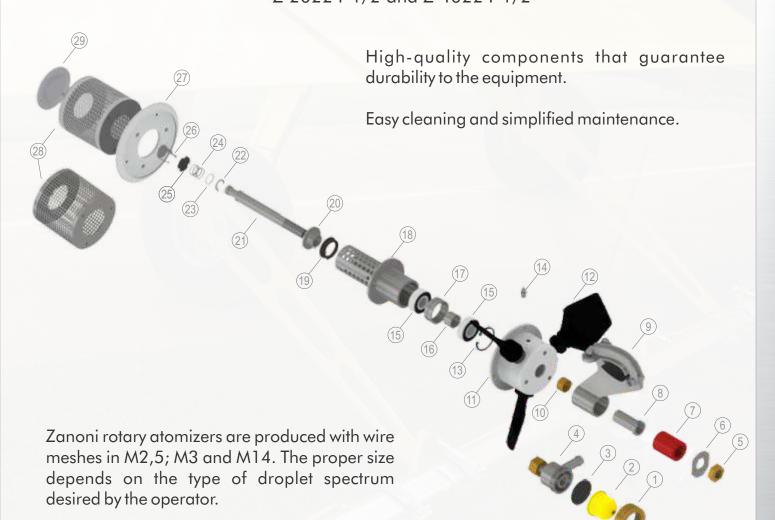
After years of study, Zanoni Equipamentos® rotary atomizers were developed through high quality and precision procedures, using materials resistant to the most corrosive products used in aerial spraying. They are equipped with a cylindrical stainless steel atomizer gauze and are available in several mesh sizes, capable of producing the spectrum of drops required for each type of operation.



- Stainless steel resistance and Zanoni Equipamentos® durability;
- Larger bearings than those of other manufacturers;
- Strong atomizer gauzes, which facilitate equipment cleaning;
- Easy maintenance;
- Efficiency in application, with appropriate uniformity of drops.

For information on the operation of the Zanoni rotary atomizer, access its technical manual on our website: www.zanonieguipamentos.com.br/uploads/products/manual/2020/06/atomizer-technical-manual-1593283497.pdf

## ROTARY ATOMIZERS Z 20224-1/2 and Z 40224-1/2



ITEM	PN	PRODUCT			
1	Z 20224-05-04	RING, SECURING			
2	Z 20224-05-02	CAP			
3	Z 20224-05-05	VITON DIAPHRAGM			
4	Z 20224-05-01	DIAPHRAGM CHECK VALVE BODY			
1/2"	DIAPHRAGM CHECK V	ALVE (COMPLETE): Z 20224-05-1/2"			
5	Z 20224-01-09	BRASS NUT			
6	Z 20224-02-05	WASHER			
7	Z 20224-02-04	POLYURETHANE BUSH			
8	Z 20224-02-03	BUSH PIPE			
9	Z 20224-02	MOUNTING CLAMP (1 1/2" BOOMS)			
	Z 40224-02	MOUNTING CLAMP (2" BOOMS)			
10	Z 20224-01-10	BRASS BUSHING			
11	Z 20224-01-01	HUB BODY ASSEMBLY			
12	Z 20224-01-08	FAN BLADES (WIDE)			
	Z 50224-01-08	FAN BLADES (MEDIUM)			
	Z 80224-01-08	FAN BLADES (SHORT)			
13	Z 20224-01-02-04	SNAP RING I-35			
14	Z 20224-01-01-03	GREASE NIPPLE			

ITEM	PN	PRODUCT		
15	Z 20224-01-02-03	BEARING		
16	Z 20224-01-02-06	BEARING SPACER (INSIDE)		
17	Z 20224-01-02-05	BEARING SPACER (OUTSIDE)		
18	Z 20224-01-02-07	BEARING HOUSING		
19	Z 20224-01-05	V'RING		
20	Z 20224-01-04	DEFLECTOR RING		
21	Z 20224-01-03-01	SHAFT		
22	Z 20224-01-03-05	SPRING CLIP		
23	Z 20224-01-03-04	TEFLON GUIDE		
24	Z 20224-01-03-03	SPRING		
25	Z 20224-01-03-02-03	VITON RING		
26	Z 20224-01-03-02	RETENTION VALVE		
27	Z 20224-01-07	DEFLECTOR DISC		
28	Z 20224-01-06-M2,5	ATOMIZER GAUZE M2,5		
	Z 20224-01-06-M3	ATOMIZER GAUZE M3		
	Z 20224-01-06-M14	ATOMIZER GAUZE M14		
29	Z 20224-01-13	DEFLECTOR CAP		

The mounting clamp varies according to the aircraft's boom profile. For the correct product, please inform the dealer which type of boom the equipment will be installed on.

The propeller blades of the equipment vary according to the average speed of the aircraft. For more information, see the technical manual available on our website or contact the Zanoni team.

### 1/2" VARIABLE RESTRICTOR UNIT (VRU) Z 20224-03-1/2

Stainless steel VRU: corrosion resistance and Zanoni Equipamentos® durability.



ITEM	PN	PRODUCT		
30	Z 20208-01-04	20208-01-04 5/16" HEX NUT		
31	Z 20208-08	5/16" WASHER		
32	Z 20224-03-09	DISC WITH LEVER		
33	Z 20224-09	O'RING 2008		
34	Z 20224-03-04	SHAFT		
35	Z 20224-03-01	VRU BODY		
36	Z 00093	NOZZLE FOR HOSE (3/8" X 1/8" NPT)		
37	Z 00089	1/4" X 1/8" NPT NIPLE		
38	Z 20224-03-05	MAIN SEAL (TEFLON)		
39	Z 20224-03-03	STAINLESS STEEL BALL		
40	Z 20224-08	O'RING 019		
41	Z 20224-03-02	VRU CAP 1/2"		
42	Z 00092	ELBOW (3/8" X 1/8" NPT)		

#### EFFICIENCY AND ACCURACY IN APPLICATION

After years of working in the field together with our partners, the Zanoni rotary atomizer has been gradually improved to offer an accurate and efficient application for the agricultural pilot, seeking to offer a wide spectrum of drops in the most uniform way possible.

The last agronomic tests were carried out with our M3 mesh on an Air Tractor aircraft with a speed of 140 mph, offering a median drop diameter between  $130\mu$ m and  $200\mu$ m, depending on the equipment regulation (access the manual available on the website or consult the Zanoni team for more information on the droplet spectrum).

#### DROPLET VOLUME MEDIAN DIAMETER (VMD)

	FLOW: 5L/HA	FLOW: 10L/HA	FLOW: 15L/HA
LOW ROTATION	180 μm	190 μm	200 μm
MEDIUM ROTATION	150 μm	160 μm	170 μm
HIGH ROTATION	130 μm	140 μm	150 μm

Note: other meshes offer different spectrum of droplet sizes. The tests are preliminary.

Constantly seeking to improve the equipment and listening to several complaints about the lack of uniformity in spraying on various nozzles (including our own rotary atomizers), Zanoni Equipamentos has endeavored to offer the most efficient atomizer for agricultural pilots. The uniformity of the droplets is measured by the relative spam (RS), an important indicator of the efficiency of the applications affecting the biological efficiency and the drift. The more uniform the spectrum, the smaller the relative spam. The same test mentioned above indicated a quite appropriate relative spam, according to the parameters indicated by agronomists specialized in this area. The ongoing tests are confirming the experiences reported by our partners, that the Zanoni rotary atomizers have shown a standard of excellence in relation to the uniformity of drops.

#### DROPLET SPECTRUM RELATIVE SPAM (RS)

	FLOW: 5L/HA	FLOW: 10L/HA	FLOW: 15L/HA
LOW ROTATION	0,8	0,8	0,8
MEDIUM ROTATION	0,8	0,7	1,2
HIGH ROTATION	0,9	1,0	0,8

Note: other meshes may offer different RSs than these. The tests are preliminary.



#### M14 MESH

Even with results already quite satisfactory in terms of durability and efficiency, Zanoni Equipamentos continues to seek to improve its rotary atomizers. More recently, the M14 mesh was launched, which promises to offer a wider droplet spectrum and an even more uniform application. Tests are already scheduled and will be available as soon as we have their results.







Zanoni Equipamentos maintains its commitment to always seek the trust and satisfaction of its partners and to offer innovative equipment with greater durability and quality for the agricultural pilot. These two pillars of our operations are achieved through constant dialogue with operators, listening to their demands, carrying out fieldwork, exchanging knowledge and presenting solutions to everyday problems in the sky and in the crop fields.

We thank each of our partners who were and are still involved with the development of the Zanoni rotary atomizer and place their trust in our work. We reinforce that our doors are always open to listen to your problems, your new challenges and also the criticisms and suggestions for improving our equipment and services.



For any questions or needs, the Zanoni team is at your service!





+55 (44) 3424-2420 +55 (44) 3424-2884



www.zanoniequipamentos.com.br zanoni@zanoniequipamentos.com.br



Rodovia BR 376 Distrito Industrial Paranavaí/PR - Brazil



+55 (44) 99864-4747



/zanoniequipamentos



@zanoniequipamentos