

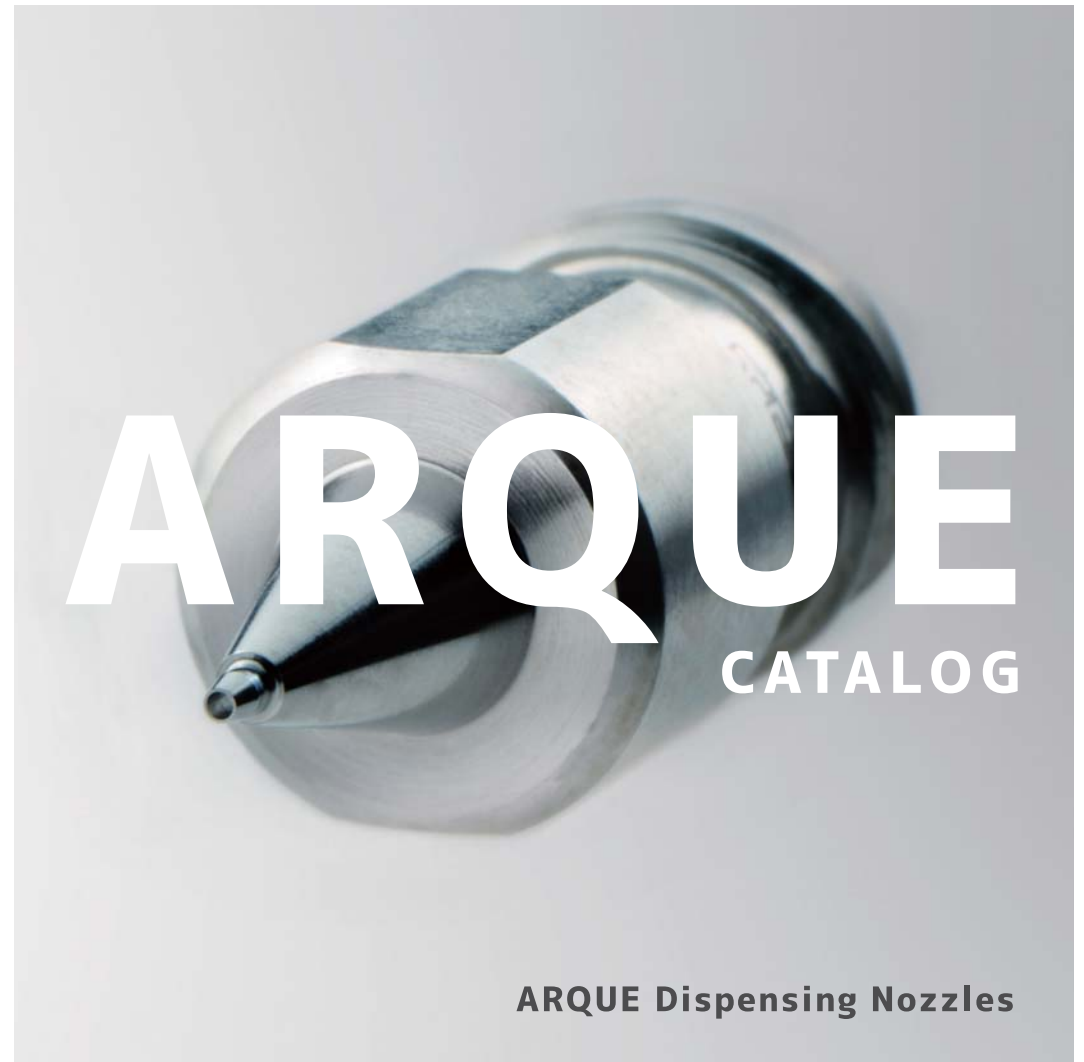


**Tecdia Inc.**

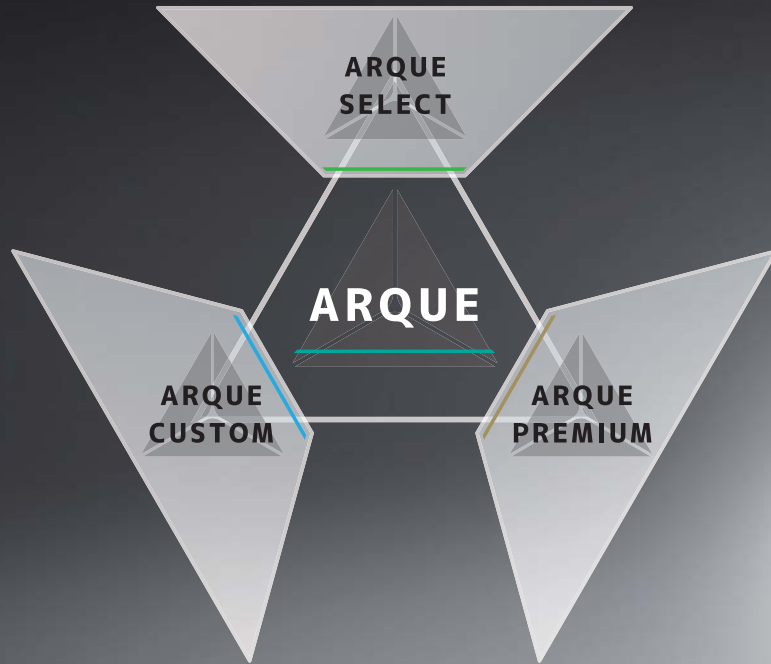
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# ARQUE SERIES



ARQUE = ARQUERO

The ARQUE Series of Tecdia nozzles boast precision dispensing capabilities and consistent performance, much like their namesake Pez Arquero. Pez Arquero is Spanish for Archer Fish, so named due to its ability to strike down its prey with a precision ejection of fluid.



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# PRODUCT LINEUP

## ARQUE

Our extensive product line offers multiple coating options as well as different tip lengths for demanding applications.

## ARQUE SELECT

Value emphasized with limited diameters. Reduced inspection criteria offers cost competitive options without compromising quality.

## ARQUE CUSTOM

ARQUE nozzles with customizable features such as length and inner and outer diameters.

## ARQUE PREMIUM

Diameters as small as 10 µm for cutting edge “R & D” applications such as 3D Bio-Printing and other material research.

## SPECIFICATIONS

Units : mm

Model	ARQUE		ARQUE SELECT	ARQUE CUSTOM	ARQUE PREMIUM	
Part Number	ARQ-S-○○-S	ARQ-S-○○	TCN-S-○○	-	ARQ-S-○○-S	
Tapered Bore	○	○	○	○	-	
Polished Tip	○	○	○	○	○	
Syringe Bore Matching	○	○	○	○	○	
Serial No. Engraving	○	○	-	○	○	
Coating Option	WR Coating or AEGIS Coating		-	WR Coating or AEGIS Coating	AEGIS Coating	
Tip Length	0,30	1,00	1,00	0,30 or 1,00	0,05	0,30
Tip (I.D. x O.D.)	0,10 × 0,20	0,10 × 0,20	0,30 × 0,40	See page 9 for customization.	0,01 × 0,05	0,03 × 0,08
	0,15 × 0,25	0,15 × 0,25	0,35 × 0,45		0,02 × 0,07	0,05 × 0,10
	0,20 × 0,30	0,20 × 0,30	0,40 × 0,50			0,07 × 0,12
		0,25 × 0,35	0,50 × 0,60			0,08 × 0,13
		0,30 × 0,40	0,60 × 0,70			
		0,35 × 0,45				
		0,40 × 0,50				
		0,45 × 0,55				
	0,50 × 0,60					

# ARQUE

Tapered design with minimized internal steps that maximize flow rates.  
 High precision machining enables consistent yet minute fluid delivery.  
 An embodiment of high quality manufacturing.



## STANDARD DIMENSIONS

Units : mm

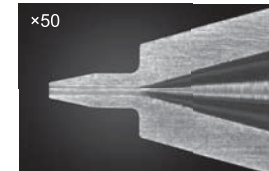
Model	Part Number	Tip Dimensions		Material
		I.D.	O.D.	
ARQUE	ARQ-S-1020	0.10	0.20	SUS303
	ARQ-S-1525	0.15	0.25	
	ARQ-S-2030	0.20	0.30	
	ARQ-S-2535	0.25	0.35	
	ARQ-S-3040	0.30	0.40	
	ARQ-S-3545	0.35	0.45	
	ARQ-S-4050	0.40	0.50	
	ARQ-S-4555	0.45	0.55	
ARQUE-S	ARQ-S-1020-S	0.10	0.20	SUS303
	ARQ-S-1525-S	0.15	0.25	
	ARQ-S-2030-S	0.20	0.30	

### Prevents Clogging

Tapered shape with minimized internal steps.  
 This prevents material from accumulating at the step edges and narrowing the dispensing cavity.

### Tapered Shape

Precision machining eliminates tooling marks from the tapered end to prevent clogging.



### Internal Shape Comparison



The straight and smooth internal profile eliminates material clogging caused by stepped machining.

## Reduced Creep-up with Extended Use

Polished nozzle tips.  
Solves dispensing problems relating to creep-up and material trailing.

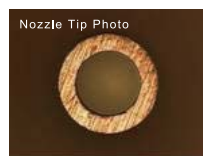
All ARQUE nozzles feature polished tips to decrease friction and reduce unwanted material collection that can affect shot performance.



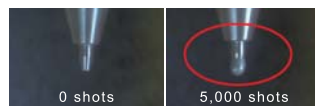
Polished



No creep-up exhibited after 15,000 shots.



Unpolished



Creep-up shown after only 5,000 shots

## Perfect Alignment

Joint-less interface improves pressure response between the nozzle and the syringe.



## ARQUE SELECT

With the same ARQUE design but re-engineered with mass production in mind. These cost-cutting products help enhance production processes, enabling your company to achieve a greater market share.

### STANDARD DIMENSIONS

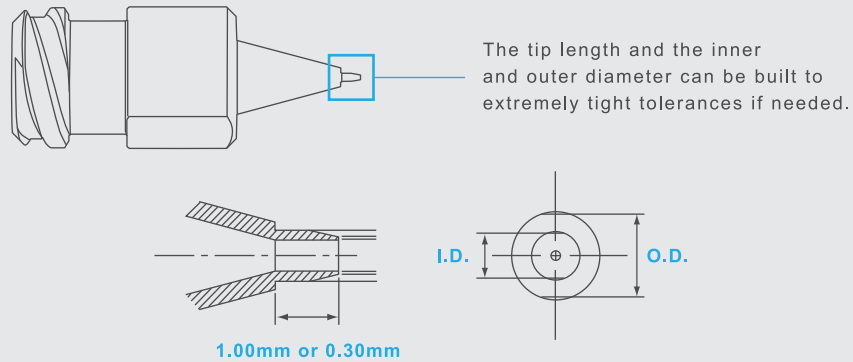
Units : mm

Model	Part Number	Tip Dimensions		Material
		I.D.	O.D.	
ARQUE SELECT	TCN-S-3040	0.30	0.40	SUS303
	TCN-S-3545	0.35	0.45	
	TCN-S-4050	0.40	0.50	
	TCN-S-5060	0.50	0.60	
	TCN-S-6070	0.60	0.70	

Consider ARQUE SELECT  
for your mass production needs.

# ARQUE CUSTOM

Any ARQUE nozzle can be custom tailored to your specifications.  
 Tecdia can adjust our standard parameters to fit your specific needs.



## Customizable Region

Units : mm

Model	Part Number	Internal Straight Profile Length	I.D.		O.D.		Material
			min	max	min	max	
ARQUE CUSTOM	-	0.30	0.10	0.20	0.15	0.50	SUS303
	-	1.00	0.10	0.50	0.15	0.60	

\*I.D. and O.D. can be specified in 0.01 mm increments.  
 \*O.D. is required to be at least 0.05 mm greater than the I.D.

## Coating

Nozzle Coating solves many problems such as dispensing errors caused by fluid volume variation, material stringification and tip clogging.  
 For most materials, coated nozzle tips offer more precision with faster break-off during dispensing.  
 Select the coating type to suit your application.



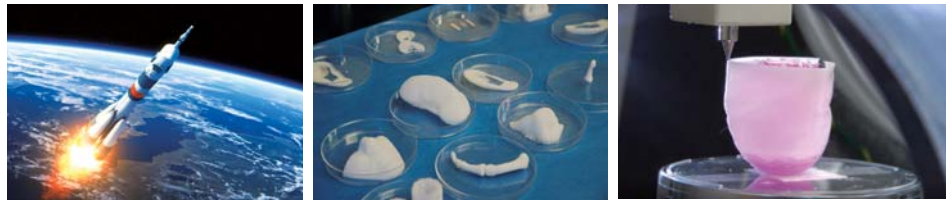
## Withstanding Temperature

	WR Coating	Aegis Coating
Heat Resistance Temperature	120°C	120°C
Thickness	< 2µm	0.01~0.03µm



# ARQUE PREMIUM

A no compromise nozzle solution. As technology advances, the miniaturization of components makes assembly more difficult, creating new challenges for the dispensing industry. Ultra-small and low volume shots are required across a range of fields including Bio-Printing, Space research and even consumer devices. The lack of small nozzle technology should not be a limiting factor. ARQUE Premium nozzles push the limits of micro-machining technology.



## Space Development

Adopted into coolant ejection devices required when rockets enter the atmosphere. These nozzles carry next-generation technology even within the space industry.

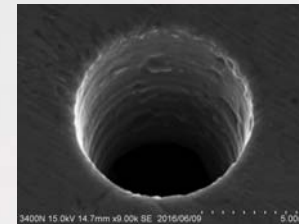
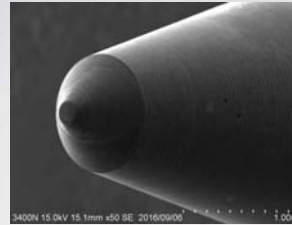
## Bio-Printing

Regenerative medicine has the potential to revolutionize healthcare. ARQUE Premium nozzles support 3D bioresearch which will make it possible to print body parts such as ears, noses, livers or kidneys utilizing new 3D printing techniques

### STANDARD DIMENSIONS

Units : mm

Model	Part Number	Tip Dimensions		Material
		I.D.	O.D.	
ARQUE PREMIUM	ARQ-S-0105-S	0.01	0.05	SUS303
	ARQ-S-0207-S	0.02	0.07	
	ARQ-S-0308-S	0.03	0.08	
	ARQ-S-0510-S	0.05	0.10	
	ARQ-S-0712-S	0.07	0.12	
	ARQ-S-0813-S	0.08	0.13	



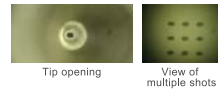
10µm Inner Diameter Nozzle

# SPECIAL APPLICATION NOZZLES



## Elliptic Tip Nozzle For SMD

**Multi-Shot Range Nozzle**  
Reduces takt time incorporating two shots into one.

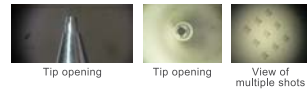


Tip opening View of multiple shots



## Slit Nozzle For SMD

**Multi-Shot Range Nozzle**  
Enables "drawing dispensing" with a cross pattern shape. This nozzle can also reduce takt time by incorporating four shots into one.



Tip opening Tip opening View of multiple shots



## Long Nozzle For LED (Phosphor), CMOS

**Nozzle for Low Viscosity / Low Pressure Dispensing**  
Allows the dispensing of low viscosity materials with minimal dripping. The surface resistance of the nozzle interior allows excellent accuracy while dispensing materials under very low pressure (<0.1MPa).



Long Nozzle on Right Long Nozzle Tip



## Fine Nozzle For Crystal Oscillators

**Nozzle for Dense Component Environments**  
Used for hard to reach areas. Without altering the inner diameter, tip thickness is reduced from 50um to 25um allowing dispensing in extremely narrow areas between board components.



Size Comparison



## Stamping Nozzle For SBD

**Stamp Method Nozzle**  
In traditional pin transfer method there is a need to repeatedly dip the pins into a reservoir for reapplication of material. This nozzle has eliminated repeated dipping, allowing a syringe to feed the material vertically into the nozzle improving takt time.

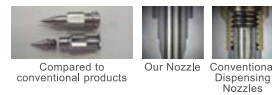


Enlarged picture of Stamping Nozzle Tip



## Solid Piece Nozzle All-Purpose

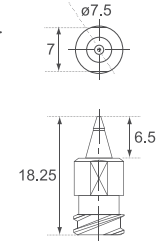
**High Fluidity Material Dispensing Nozzle**  
Pipes are attached to the nozzle fixture by press and crimp methods instead of using adhesives. This prevents unwanted detachment and leakage.



Compared to conventional products Our Nozzle Conventional Dispensing Nozzles

# OTHER DISPENSING NOZZLES

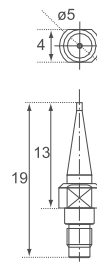
## Ruby Nozzle



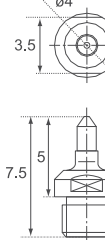
## Ruby Nozzles, ensure high fluidity.

High fluidity is required for beautiful dispensing. A precision shot is required for high throughput. Tectia Ruby Nozzles result from the greatest precision machining technologies. We recommend these for those customers seeking the absolute highest possible product quality.

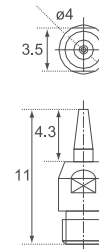
## SBR Nozzle



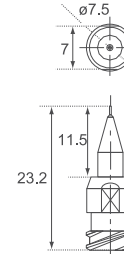
## KNC Nozzle



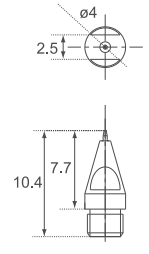
## ULB Nozzle



## NCA Nozzle



## MC Nozzle



(Units : mm)