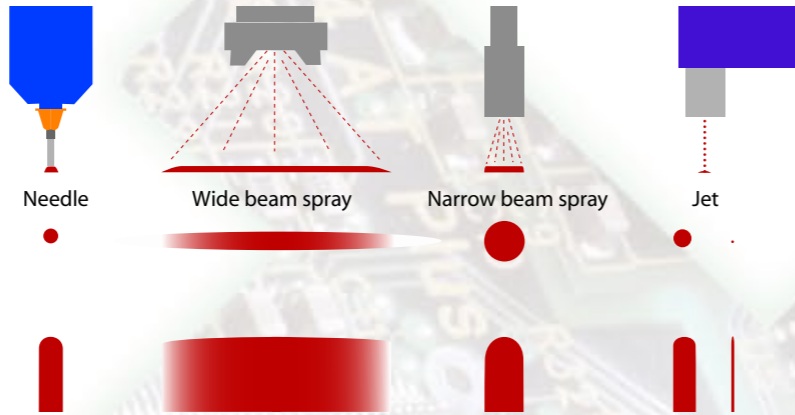


## Different methods

There are several ways to apply material onto a product. The result is influenced by the valve you use. Today's industry uses 4 different ways to apply material. These 4 different ways of applying can each be done with a variety of valves. The type of valve you choose is depending on the material volume, speed and accuracy you need. Above we show the different ways to apply the material and inside the brochure we show you the valves with their capabilities. The DIMA valves are fine mechanical instruments that are designed for outstanding precision and robust quality, easy to handle and maintained keeping the cost of ownership extremely low.



## What Material

It doesn't matter what material you take. As long as it is more or less liquid we can dispense it for you. Not only do we have a range of standard dispense valves available but we also supply the robot to load the product and to move the valve over your product so that the material is exactly there where you want it (and nowhere else).

## Applications

Typical applications are laying a gasket, applying conformal coating, dispensing glue, potting of material, lubricating, filling containers, dispensing solder paste, colour coding products, securing parts, etc., etc. If you are still using a brush or a can to apply your material, you probably can profit a lot (saving material / labour and gaining accuracy) in using one of the DIMA valves. Combined with one of DIMA's robots the process can be automated rising your advantage to the maximum.

## Over 20 years of experience

When you cannot find the valve you need please contact DIMA. Over the 20 years we have been dispensing we gathered a load of information that can be of use making your job a success. Not only the valves but also the range of robots that DIMA supplies enable you to work with a controlled process, a clean environment and a quick return on investment. The DIMA robots are extreme flexible modular systems that can be configured exactly to your requirements.

Material at 20° Celsius	Viscosity in Centipoise
Petroleum	0,65 cps (mPa.s)
Water	1 cps (mPa.s)
Ethanol	1,19 cps (mPa.s)
Milk	3 cps (mPa.s)
Motor oil SAE10	65 cps (mPa.s)
Motor oil SAE30	200 cps (mPa.s)
Conformal coating	50/5000 cps (mPa.s)
Varnish	250/1100 cps (mPa.s)
Castor oil	240/1000 cps (mPa.s)
Maple syrup	5000 cps (mPa.s)
Honey	3.000 cps (mPa.s)
Chocolate syrup	10.000 cps (mPa.s)
Ketchup	50.000 cps (mPa.s)
Mustard	70.000 cps (mPa.s)
Sour cream	100.000 cps (mPa.s)
Peanut butter	150.000/250.000 cps (mPa.s)
Shortening	1.200.000 cps (mPa.s)



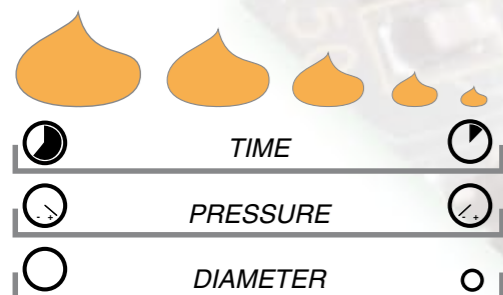
DIMA Dispense Technology  
 Beukelsdijk 2  
 5753 PA Deurne  
 The Netherlands  
 DIMA Dispense Technology is a division of the DIMA Group BV

Tel: +31 493 352 752  
 Fax: +31 493 352 750  
 Email: sales@dimadt.com  
 Web: www.dimadt.com

### Your Distributor

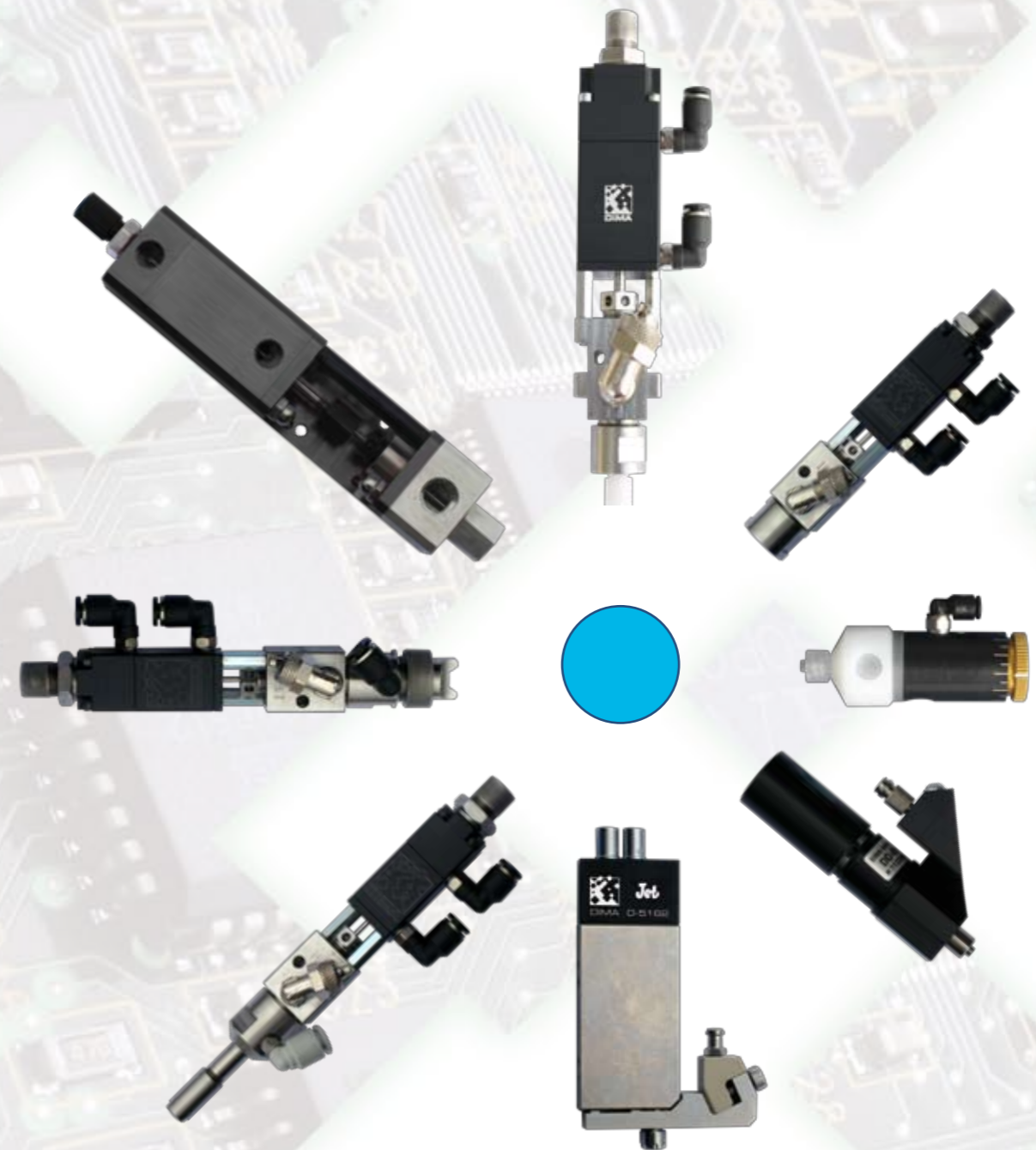
Specifications are subject to change without prior notice. Valves 0903E

DIN cup 4	20 Sec.	22 Sec.	24 Sec.	26 Sec.	28 Sec.	30 Sec.	35 Sec.	40 Sec.	46 Sec.	50 Sec.	56 Sec.	61 Sec.	71 Sec.
cps	50	60	70	80	90	100	125	150	175	200	225	250	275



# Valves

# Overview



**Reliability**  
**by innovations**

*To improve your productivity*



## Rotary valve



The Rotary valve is an open type valve. This means that the material is pushed with a low pressure against a rotary feed screw (auger). When the feed screw rotates an exact amount of material gets transported. Controlling the motor movement gives you exact control over the amount you want to dispense. Material that you want to dispense must be viscous enough that it does not flush through the valve by itself. The valve operates with a maximum frequency of 10.000 dots per hour. Max. viscosity 1.000.000 cps.

Art Nr:	Shot size	Repeatability	Dimension	Material
DD-5100	from 0.001 ml	+/- 0.1%	115x40x12 mm	Viscosity <50.000 cps

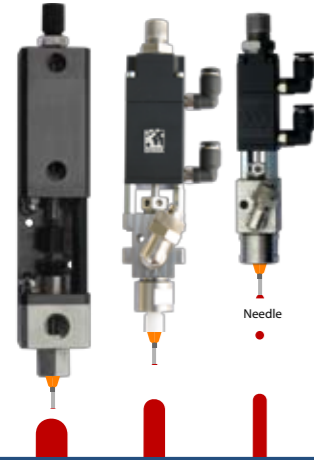
## Diaphragm valve



The Diaphragm valve is designed to dispense low to medium viscosity materials. It has a high precision accuracy. Dot size can be adjusted over opening time and material pressure in combination with the stroke limiter who is used to limit the opening of the valve. Its plastic housing makes it suitable for applications where metal valves can not be used. Max. viscosity 50.000 cps.

Art Nr:	Shot size	Repeatability	Dimension	Material
DD-5110	from 0.002 ml	+/- 0.3%	75x27x27 mm	Viscosity 1 - 25.000 cps

## Needle valves



The DD-513X series is a Stainless steel high pressure front closing needle valve. One of the unique features is the high flow rate at high viscosity materials and the fast cycle time. The volume can be controlled over the time the valve is opened and how far it is opened. An internal micrometer adjust allows you exactly to set the opening of the valve. Max. viscosity 1.000.000 cps.

Art Nr:	Shot size	Repeatability	Dimension	Volume
DD-5130	from 0.003 ml	+/- 0.3%	115x21x21 mm	low Volume
DD-5131	from 0.05 ml	+/- 0.3%	175x30x30 mm	medium volume
DD-5132	from 0.05 ml	+/- 0.3%	195x35x35 mm	high volume

## Narrow beam spray valve



The round spray valve is designed for selective conformal coating but is also used for several other applications. Once the valve is set at a certain width it will apply the material in a path with defined sharp edges making it possible to apply coating exactly there where it is needed while at the same time restricted areas are kept free of coating material. Max. viscosity 5000 cps.

Art Nr:	Spray diameter	Repeatability	Dimension	Material
DD-5140	5 to 15 mm	+/- 5%	170x21x21 mm	Viscosity 1 - 25.000 cps

## Wide beam spray valve



The wide beam spray valve is designed for selective conformal coating but is also used for several other applications. Once the valve is set at a certain width it will apply the material in a path with defined edges making it possible to apply coating exactly there where it is needed while at the same time restricted areas are kept free of coating material. This valve is normally used for large areas as back sides of printed circuit boards. Max. viscosity 5000 cps. (\*6 mm from side)

Art Nr:	Spray diameter	Repeatability	Dimension	Material
DD-5141	15* to 45 mm	+/- 5%	150x21x21 mm	Viscosity 1 - 10.000 cps

## Jet valves



Jet technology is to be considered as one of the most advanced ways of dispensing material for micro dot dispensing. DIMA offers a range of valves starting with a valve that can reproduce dots as small as 9 Nano litre per shot with a tolerance of 1% up to larger dots that eventually can be build shooting several dots on top of each other. Dots can be shot with a frequency up to 1000 dots per second. The build in piezo crystal ensures highest accuracy and reliability. \* tested with water under standard conditions.

Art Nr:	Shot size	Repeatability*	Dimension	Viscosity
DD-5160	from 9 nl	+/- 1%	103x40x10 mm	Max. 100 cps.
DD-5161	from 9 nl	+/- 2%	103x40x10 mm	Max. 2500 cps.
DD-5162	from 9 nl	+/- 2%	115x40x12 mm	Max. 100.000 cps.

Valve	DD-5100	DD-5110	DD-5130	DD-5131	DD-5132	DD-5140	DD-5141	DD-5160	DD-5161	DD-5162
<b>Type</b>	Rotary	Diaphragm	Needle	Needle	Needle	Spray	Spray	Jet	Jet	Jet
<b>Application</b>										
Microdot	++	++	○	x	x	x	x	+++	+++	+++
Dot	++	++	+++	+	+	x	x	++	++	++
Potting, and filling	○	x	+++	+++	+++	x	x	x	x	x
Top, bead and sealant	+	+	+++	+++	+	x	x	+	+	+
Spraying	x	x	x	x	x	+++	+++	x	x	x
<b>Viscosity</b>										
Low	x	+++	+++	++	+	+++	+++	+++	+++	++
Medium	+++	x	+++	+++	+++	++	++	x	++	+++
High	+++	x	++	+++	+++	x	x	x	x	+++
Max. material pressure	low	low	high	high	high	high	high	medium	medium	medium
<b>Materials</b>										
Activators	x	+++	+++	+++	+++	++	++	+++	+++	+
Acrylic	○	+++	x	x	x	x	x	x	x	x
Alcohol	x	+++	+++	+++	+++	+	+	+++	+++	+
Anaerobic	x	+++	x	x	x	x	x	x	x	x
Conformal coating	x	++	+++	+	+	+++	+++	x	+++	+++
Cyanoacrylate	x	+++	x	x	x	x	x	+++	+++	+
Electrolytes	x	+++	+++	+++	+++	+	+	+++	+++	+
Epoxies	++	x	○	○	○	○	○	○	○	○
Flux	x	+++	+++	+	+	+++	+++	x	+++	+
Glob top	x	x	+++	+	+	x	x	x	x	+++
Grease	+++	x	+++	+++	+++	+	+	+	++	+++
Ink	x	+++	+++	++	+	++	++	+++	++	x
Lacquer	x	++	+++	+++	+++	+++	+++	x	++	+++
Oil	x	++	+++	+++	+++	+++	+++	+	+++	++
Paint	x	++	+++	+++	+++	+++	+++	x	++	+++
Silicone	+	x	+++	+++	+++	+	+	x	x	+++
Solder mask	+	x	+++	++	+	x	x	x	x	++
Solder paste	+++	x	+	+	+	x	x	x	x	x
Under fill	x	+++	+++	x	x	x	x	x	+++	x

x do not use    + Good    ++ Better    +++ Best    ○ Open for test