

# DOPAG Metering and Dispensing Valves

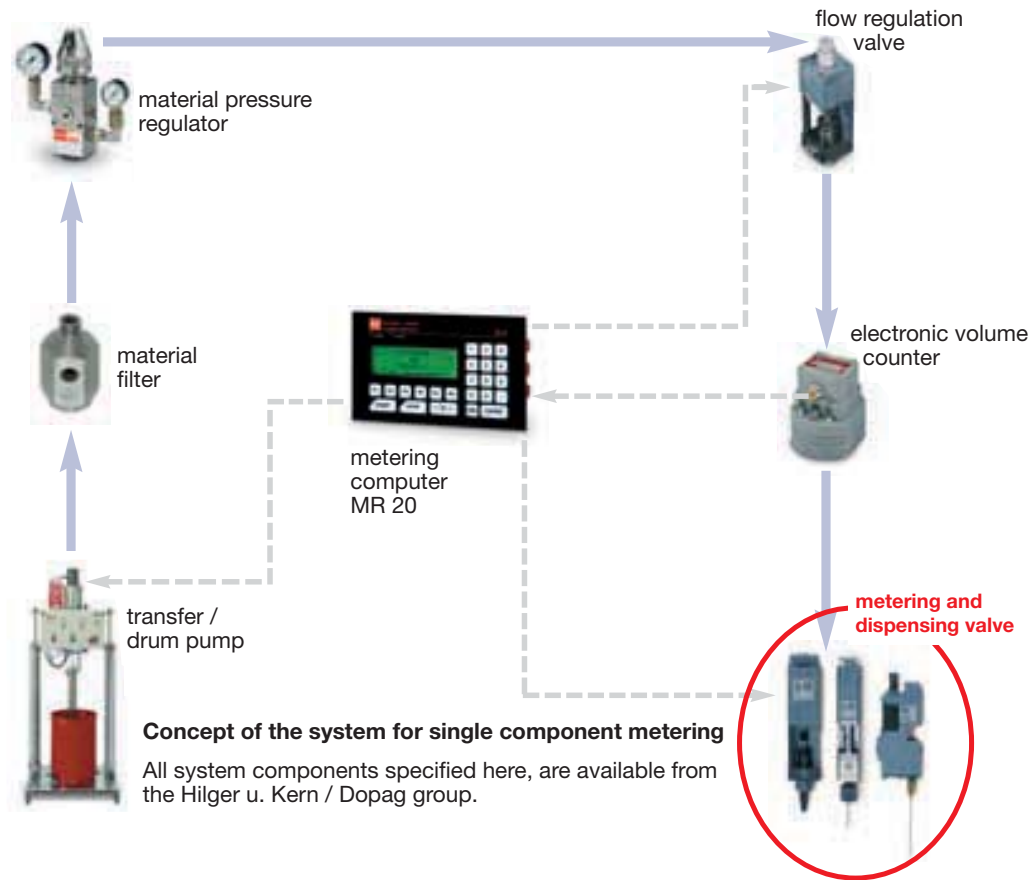
High-precision material dispensing even in complex applications



**Hilger u. Kern / Dopag**  
**Metering Technology**

# DOPAG metering and dispensing valves

For precision material dispensing of single component media



DOPAG metering and dispensing valves are used in all parts of industry for processing low viscosity to pasty media. For these applications a high-precision, reproducible dose is required.

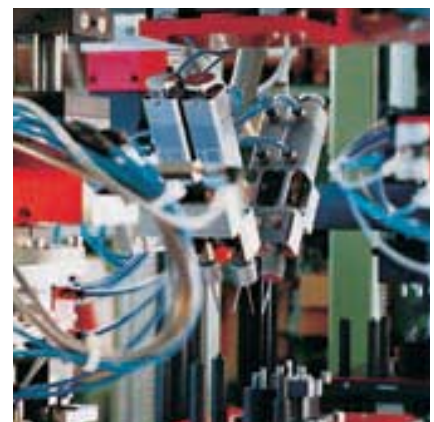
These valves are available in a number of different ranges and in different sizes. This allows the user to select the most suitable valve for each individual application. Such a large number of options together with elective materials of construction maximise the valve's possible uses.

Metering and dispensing valves are in use for instance, in DOPAG metering and dispensing systems for multi component media.

They are also used extensively in single component systems with media such as greases, oils and adhesives.

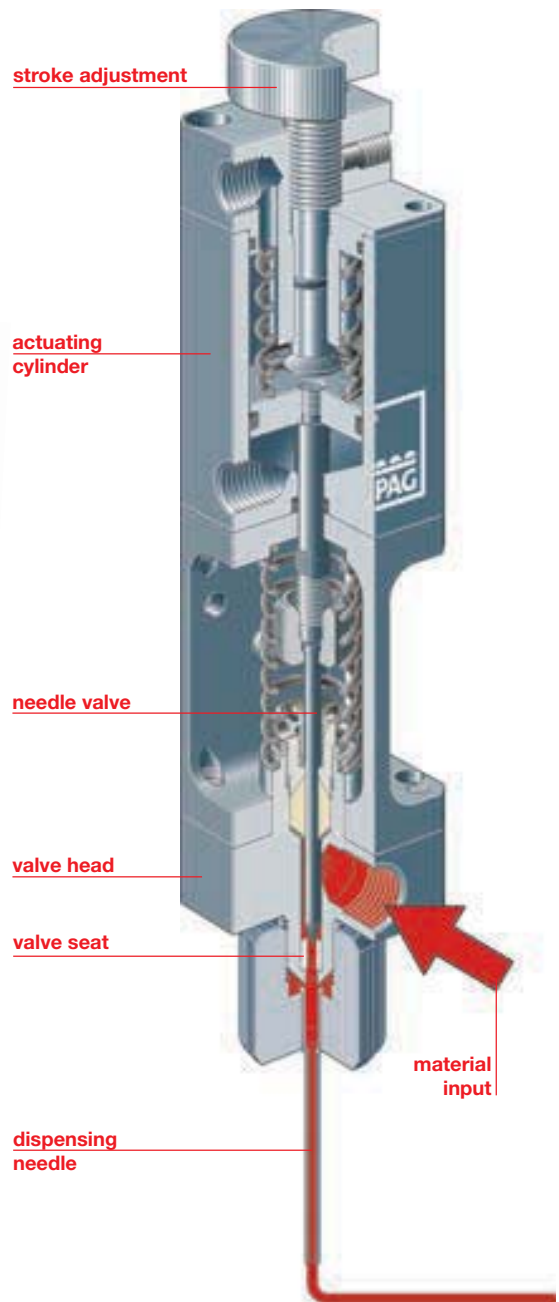


**Bead laying**



**Automatic spot-greasing**

# Dispensing valves



## Dispensing valves

Internal diameter: 1 - 16 mm  
 Material input pressure: < 250 bar

Dispensing valves are used for processing low to high viscosity media.

Adjusting the position of the needle in relation to its seat can control the size of the outlet orifice, thus giving control of the flow rate of the material.

When fully closed, the needle seals against its seat and is sealed at the throat by an adjustable packing set.

The valve is constructed in two separate parts. This separation of the fluid section from the actuating air section means that it is not possible for any leaking material to flow into the actuating air cylinder, which might otherwise cause a malfunction of the valve.

Material passageways can be quickly flushed out if necessary.

### Product data

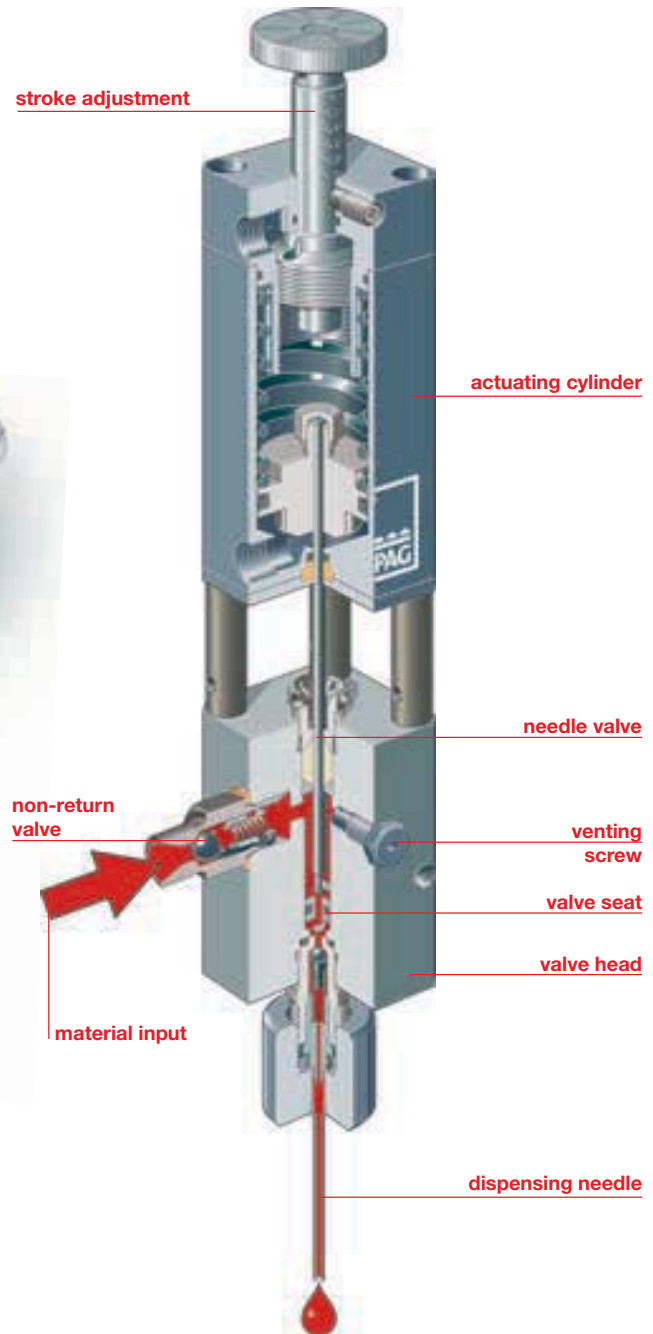
- small material passageways
- extremely high opening and closing forces
- fitted with special adjustable packings
- double acting pneumatic actuation
- capable of withstanding high pressures
- electric or pneumatic control

### Options

- wetted parts made of stainless steel
- valve seat and needle valve made of hard alloy for processing abrasive media
- handle for electric or pneumatic control

# Metering valves

## Needle design metering valve



### Needle metering valve

Metering volume: 0,001 - 1,0 cm<sup>3</sup>  
 Material input pressure: 3 - 20 bar

Needle metering valves are used for processing low to high viscosity media.

The valve consists of two separated parts. This separation means that it is not possible for any leaking material to flow into the actuating air cylinder that might otherwise cause a malfunction of the valve. The needle is sealed by means of an adjustable packing set.

Speed of metering depends on the material viscosity and the material pressure.

### Product data

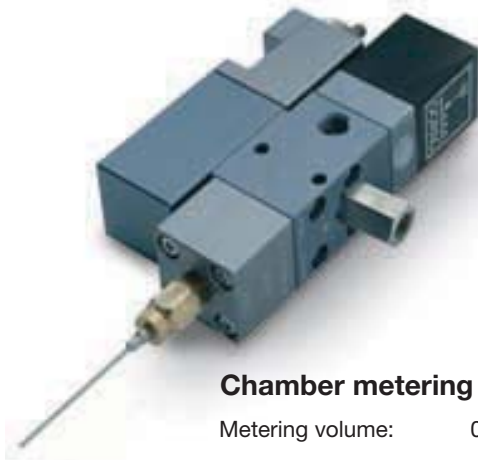
- Metering volume infinitely adjustable
- High-precision, reproducible dosage
- High pressure
- Electric or pneumatic control

### Options

- Wetted parts made of stainless steel
- Valve seat and valve needle made of hard alloy for processing abrasive media
- Handle for electric or pneumatic control
- Universal holder for adjusting the valve in height and depth

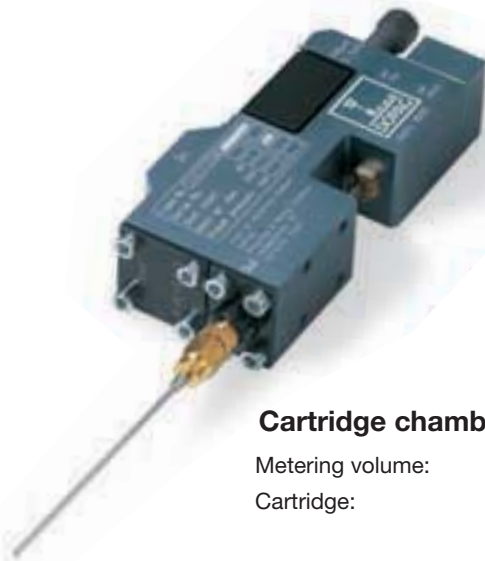
# Metering valves

## Chamber design metering valve and cartridge chamber metering valve



**Chamber metering valve**

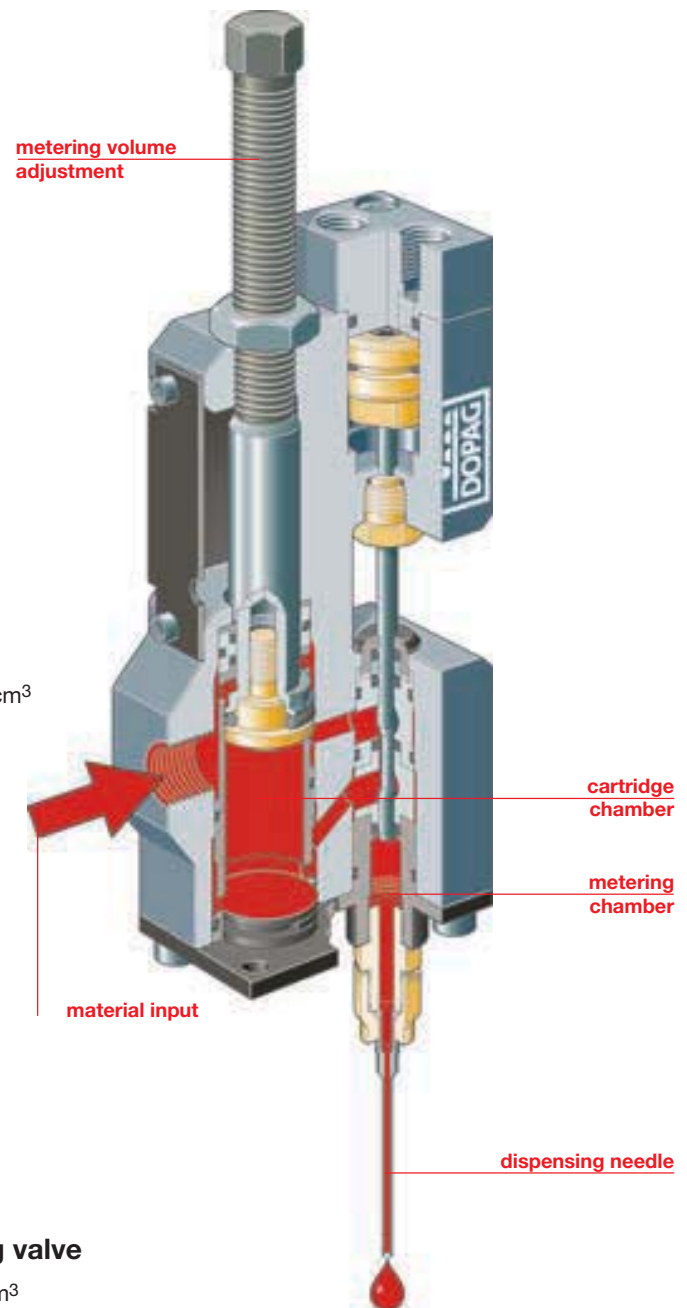
Metering volume: 0,050 - 100 cm<sup>3</sup>



**Cartridge chamber metering valve**

Metering volume: 0,025 - 10 cm<sup>3</sup>

Cartridge: 0,025 / 1,0 / 10 cm<sup>3</sup>



DOPAG chamber metering valves are available in two types:

- chamber metering valve
- cartridge chamber metering valve

### Chamber metering valve

The chamber metering valve is constructed with a metering chamber, whose size is adjusted to the metering volume. Standard sizes in different optional types allow a shot size from 0,050 up to 100,00 cm<sup>3</sup>

### Cartridge chamber metering valve

The cartridge chamber metering valve is a new generation of precision metering valves based on a completely new principle.

The metering chamber is an exchangeable cartridge contained within an aluminium valve body.

The volumetric output is infinitely adjustable between its limits. The speed of metering depends on the viscosity of the material and the material pressure. Adjusting the metering volume can be achieved easily by simply changing the metering cartridge.

### Product data

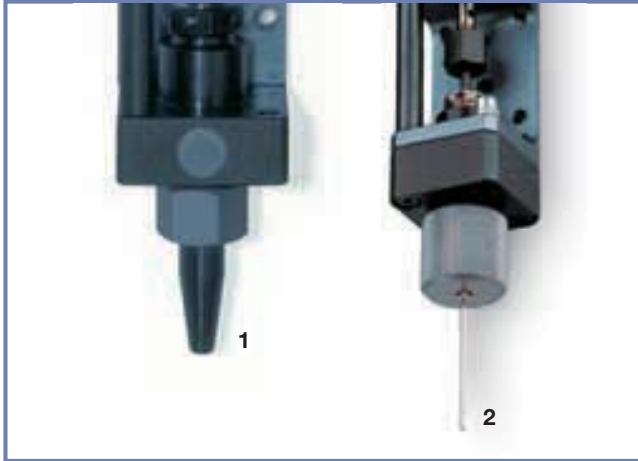
- valve body made of aluminium
- capable of withstanding high pressure
- snuff back suction
- electric or pneumatic control

### Options

- fine tuning
- double initiator receptacle: monitoring the stroke needle position
- handle with pneumatic or electric control

## Technical data

**Achievement:** ● standard  
 ○ optional  
 - not possible



The nozzle is (1) included as standard. The nozzle (2) can be ordered separately.



Valve handle optional for pneumatic (3) or electric (4) valve operation.



## Dispensing valve Series 400 / 401 / 402

internal diameter outlet-Ø	pressure ratio		material input pressure maximum, bar	weight approx., kg	wetted parts made of			options			
	opening	closing			steel, aluminium	stainless steel	needle seat made of hard alloy	hollow needles	nozzle	handle	solenoid valve plate
1,0 mm	85:1	64:1	250	0,20	-	●	-	○	-	○	○
2,0 mm	156:1	87:1	250	0,50/0,70	●	○	○	○	-	○	○
2,5 mm	285:1	87:1	250	0,50	●	-	-	○	-	○	○
4,0 mm	-	27:1	40	0,40	●	-	-	-	●	○	-
6,0 mm	114:1	50:1	250	1,50	●	○	○	-	●	○	○
12,0 mm	72:1	32:1	100	1,60	●	○	-	-	●	○	○
12,0 mm	57:1	30:1	250	2,80	●	-	○	-	-	○	○
12,0 mm	113:1	98:1	250	2,70	●	○	-	-	●	-	○
13,0 mm	85:1	64:1	200	1,20	●	-	-	-	-	○	○
16,0 mm	17:1	32:1	60	3,20	●	-	-	-	●	○	○



### Needle metering valve Series 401 / 402 / 417

metering volume/ shot, cm <sup>3</sup>	material input pressure bar		weight approx., kg (standard)	wetted parts made of		options					
	minimum	maximum		steel, aluminium	stainless steel	hollow needles	needle connection	fine tuning	solenoid valve plate	handle	spray adapter
0,001 - 0,01	3	20	0,25	●	○	○	●	●	○	○	-
0,005 - 0,10	3	20	0,80	●	○	○	●	●	○	○	○
0,008 - 0,18	3	20	0,80	●	○	○	●	●	○	○	○
0,050 - 1,00	3	20	1,40	●	○	○	●	●	○	○	○



### Chamber metering valve Series 415

metering volume/ shot, cm <sup>3</sup>	material input pressure bar		weight approx., kg (standard)	wetted parts made of		options					
	minimum	maximum		steel, aluminium	stainless steel	hollow needle	needle connection	initiator receptacle	fine tuning	measuring stick	handle
0,050 - 0,50	15	150	0,50	●	○	○	○	○	-	-	○
0,100 - 3,00	15	150	0,60	●	○	○	○	○	-	-	○
0,500 - 12,00	15	150	1,95	●	○	○	○	○	○	○	○
5,000 - 100,00	15	150	4,10	●	○	○	○	○	○	○	○



### Chamber metering valve with cartridge Series 418

metering volume/ shot, cm <sup>3</sup>	material input pressure bar		weight approx., kg (standard)	wetted parts made of		options						
	minimum	maximum		steel, aluminium	stainless steel	hollow needle	needle connection	initiator receptacle	fine tuning	solenoid valve plate	handle	replacement cartridge
0,025 - 0,25	40	100	1,00	●	-	○	○	○	●	○	○	○
0,050 - 1,00	20	150	1,00	●	-	○	○	○	●	○	○	○
0,500 - 10,00	6	150	1,00	●	-	○	○	○	●	○	○	○

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The Hilger u. Kern / Dopag group is one of the leading manufacturers of machines for metering and mixing systems in the world for plural component polymers and single component media such as greases, oils and pastes. For over 25 years the group has developed machines, systems, and components to suit your individual needs.

For more information or for spare parts, please contact :

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