

# MODULAR TWO-LINE DISTRIBUTOR

# ZVM, ZVM-P

## APPLICATION

Modular distributors ZVM are a lubricating element of two-line lubrication system applied for dosing lubricant into individual lubricated points. The distributors are applied for lubrication of various machines, machine groups and equipment, e.g. in metallurgy, mining industry, cement works, sugar factories, power engineering, metallurgical plants etc.

ZVM distributors are supplied in execution with regulation head, i.e. with possibility to adjust supplied lubricant dose and in execution ZVM-P without regulation head, i.e. with fixed lubricant dose 2.0 cm<sup>3</sup>/stroke/outlet.

Distributors ZVM and ZVM-P are supplied assembled with various number of outlets - 1 to 10, or in a form of individual components - baseplates and dosing units, for an assembly of distributor execution requested by customer.

Individual types can be combined mutually in a central lubrication circuit, nominal doses can be adjusted during system operation. Further advantage of modular distributors ZVM, ZVM-P is the possibility of dosing units to be replaced without dismounting baseplate from the distribution piping of central lubrication.

## DESCRIPTION

ZVM distributors consist of a baseplate with possibility to mount 1 – 5 dosing units. Those are attached to the baseplate by means of M6x35mm screws and sealed by o-rings. Every dosing unit consists of a servo piston (slider), metering piston (dosing lubricant into the point to be lubricated), regulation head, signalling pin (indicator rod), adjusting screw and distribution plug with sealing. Distributors ZVM-P are provided with a plug instead of regulation head. Outlets, always two for one dosing unit, are located on the baseplate and can be fitted with complete outlet connection. The inlet piping is connected to the distributor baseplate through the complete inlet connection. There are two anchor holes for 8 mm screws in the baseplate.

## OPERATION

The two-line distributor is connected into the circuit of a two-line lubrication system. For a distributor to function, it is essential to alternate the pressure in pipe lines, which is provided by the working function of the two-line lubricating pump (e.g. Z2). When the lubricant is supplied into one branch, the servo piston is shifted on into a limit position. The lubricant gets under the metering piston by opening a connecting channel. The metering piston moves into the other limit position and simultaneously forces out the lubricant through the interconnecting channel to the baseplate output channel and further into the outlet. The whole working cycle is repeated in the opposite direction after supplying the pressure to the other branch and relieving the first branch. Two strokes of a distributor are needed for the lubrication of all the lubricated points included in the two-line lubrication system. Nominal dose adjustment (only for type ZVM) is provided by means of an adjusting screw in the regulation head. By means of this adjusting screw the stroke of metering piston is limited through the indicator rod. If the adjusting screw is fully tightened, the outlet is adjusted to minimum flow rate. An odd number of outlets is attained by plugging one of the baseplate outlets and taking out the sealing under distribution plug in an appropriate dosing unit. In this case a doubled nominal dose is supplied into the opposite baseplate outlet, which can be adjusted by an adjusting screw according to requirements. This fact allows the variability of nominal doses of lubricant from the outlet to be extended. If there is a requirement for much more different nominal doses of lubricant from the outlets of one ZVM distributor, the dose can be doubled or tripled by using connecting bridges. This special requirement must be arranged with the supplier.

On consultation with the supplier, a ZVM distributor can be fitted with an electric signalling device. An individual outlet can be furnished with a switch that would allow a permanent control of the supplied lubricant into the lubricated point.

## SERVICE AND MAINTENANCE

ZVM distributors are mounted in any position. During the assembly it is advisable to ensure easy access to the adjusting screws for the adjustment of nominal dose. The distributors are fixed directly to the machine foundation by means of M8 mm screws or by a welded-on clamp. The clamp and anchor bolts are not part of the delivery.

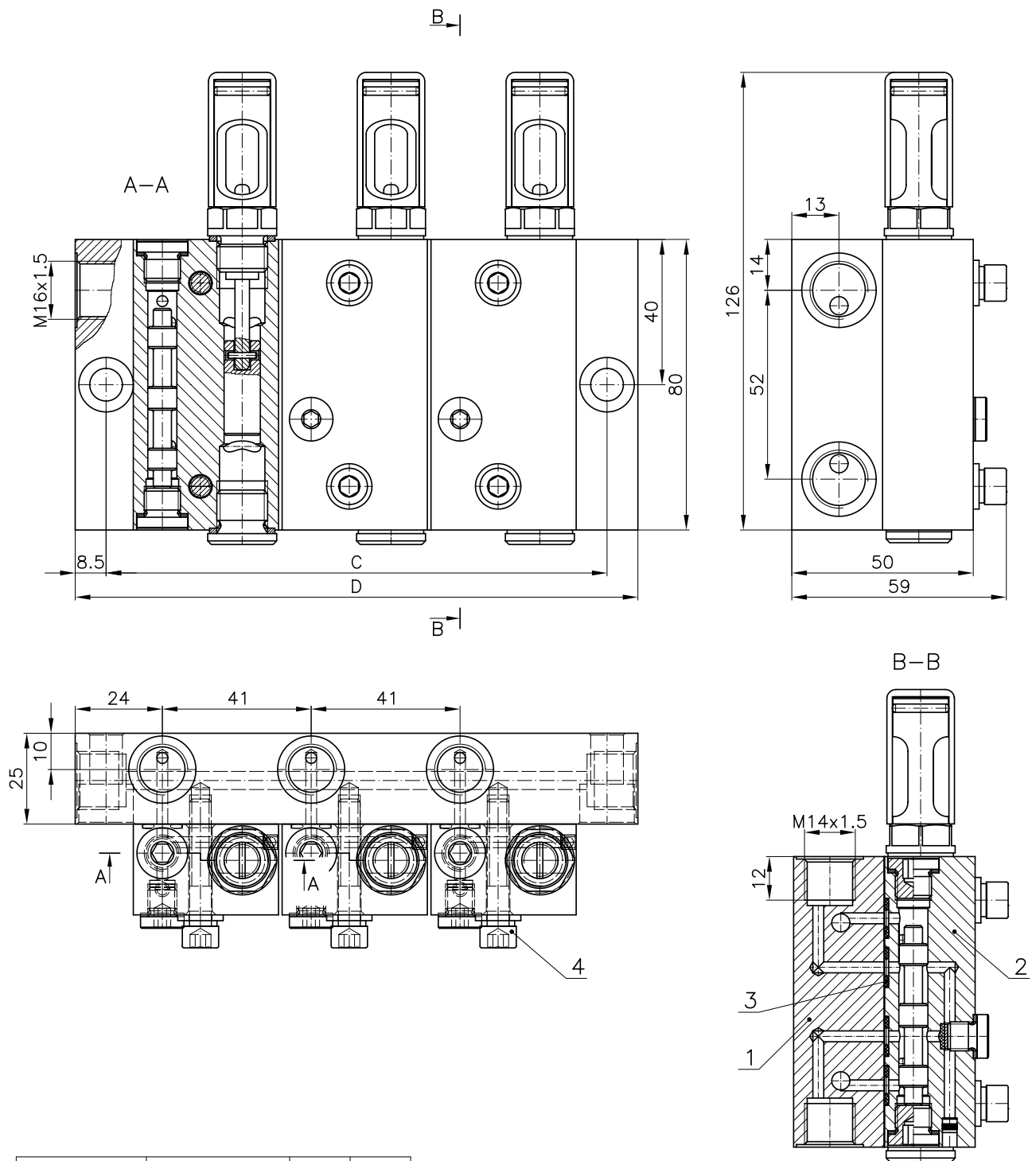
After the distributor is mounted to the chosen place the inlet piping is connected and the lubricant passed through. The connection of the distributors to the piping should always be made in the same way, i.e. the same inlet piping, e.g. upper one, should be connected to the same pipe line. The distributor is adjusted for maximum dose. When the lubricant leaves the outlets without air bubbles, the outlet piping can be connected. It is recommended to adjust the doses only during operation. The distributors require no further service except to check connections for leakage from time to time.

## TECHNICAL DATA

Maximum working pressure	400 bar	
Working pressure	350 bar	
Minimum working pressure	10 bar	
Nominal output	2.0 cm <sup>3</sup> /stroke/outlet	
Regulating range of nominal output	0.4 - 2.0 cm <sup>3</sup> /stroke/outlet	
Number of outlets	1 ZVM-2	2
	2 ZVM-2	4
	3 ZVM-2	6
	4 ZVM-2	8
	5 ZVM-2	10
Inlet pipe union	M16x1.5 mm	
Outlet pipe union	M14x1.5 mm	
Lubricant	grease	max. NLGI-2
	oil	min. 50 mm <sup>2</sup> /sec.
Temperature of working environment	-25 to 80°C	
Weight	1.6 to 6.5 kg (depending on execution)	

### NOTE:

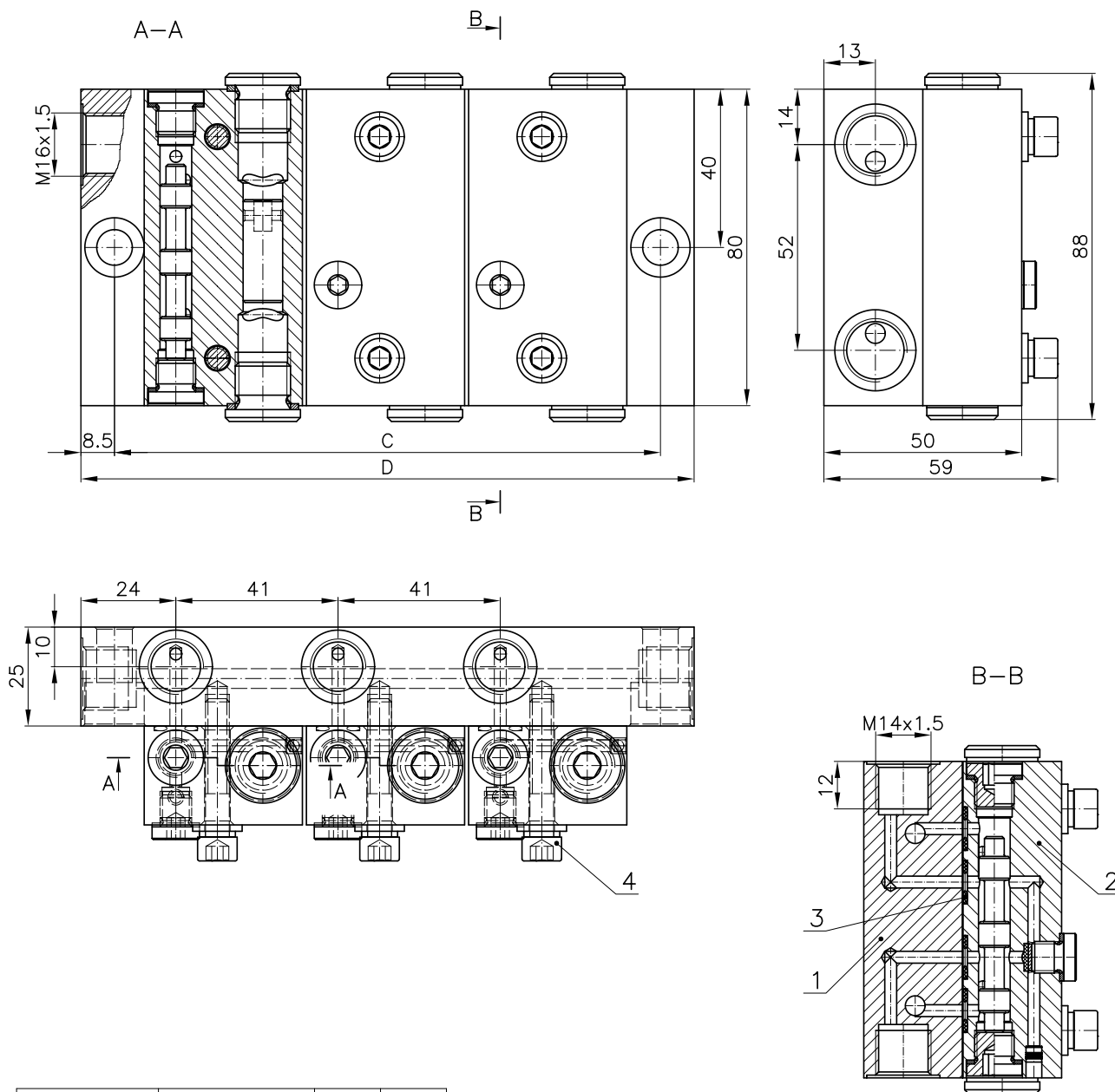
It is possible to supply two-line distributors ZVM, ZVM-P with complete assembled inlet and outlet connections according to customer's request. It is necessary to indicate the specification in order or a specification on packing list might be used (see User's guide).



Type	Code	C	D
1 ZVM-2	9 52 0809	56	73
2 ZVM-2	9 52 0810	97	114
3 ZVM-2	9 52 0811	138	155
4 ZVM-2	9 52 0812	179	196
5 ZVM-2	9 52 0813	220	237

Pos	Name
1	Baseplate
2	Dosing unit
3	O-ring
4	Screw M6x35

Name	MODULAR TWO-LINE DISTRIBUTOR	<b>Tribotec</b> s.r.o. Košuličova 4 Brno www.tribotec.cz +420 543 425 611
Type	1 ZVM-2 ÷ 5 ZVM-2	
Code		



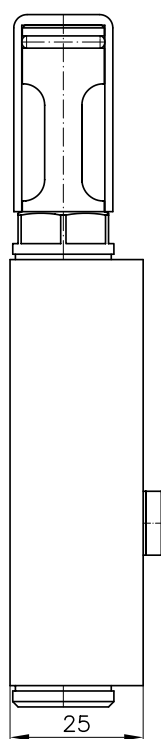
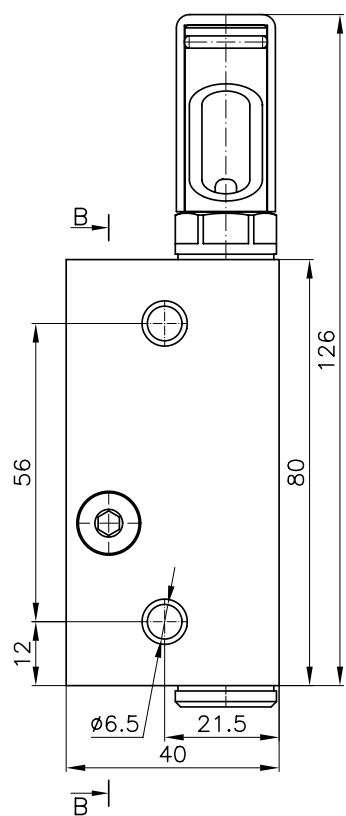
Type	Code	C	D
1 ZVM-2P	9 52 0814	56	73
2 ZVM-2P	9 52 0815	97	114
3 ZVM-2P	9 52 0816	138	155
4 ZVM-2P	9 52 0817	179	196
5 ZVM-2P	9 52 0818	220	237

Pos	Name
1	Baseplate
2	Dosing unit
3	O-ring
4	Screw M6x35

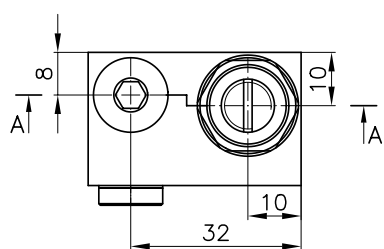
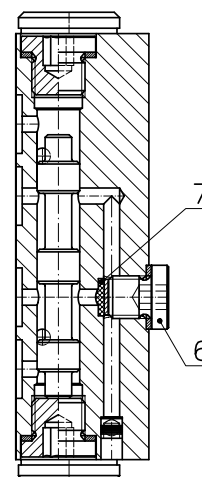
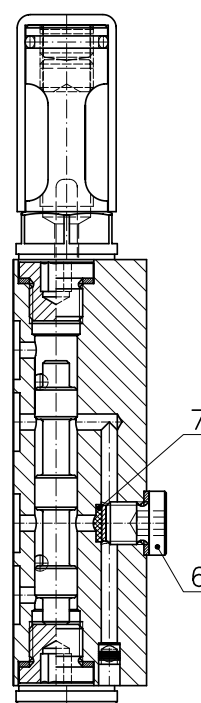
Name	MODULAR TWO-LINE DISTRIBUTOR	<b>Tribotec</b> s.r.o. Košuličova 4 Brno www.tribotec.cz +420 543 425 611
Type	1 ZVM-2P ÷ 5 ZVM-2P	
Code		

ZVM-2

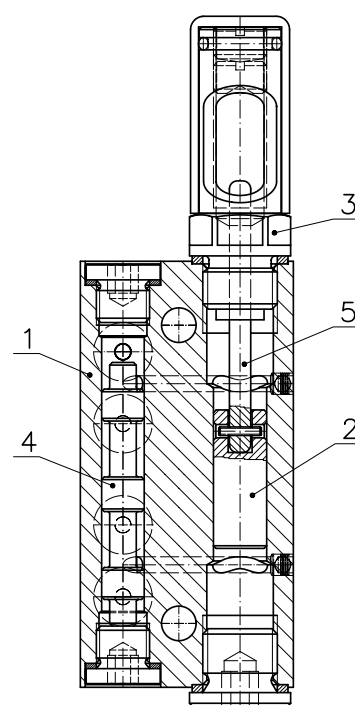
ZVM-2P



B-B



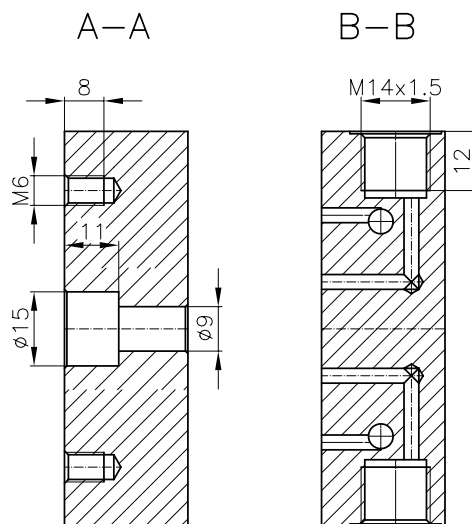
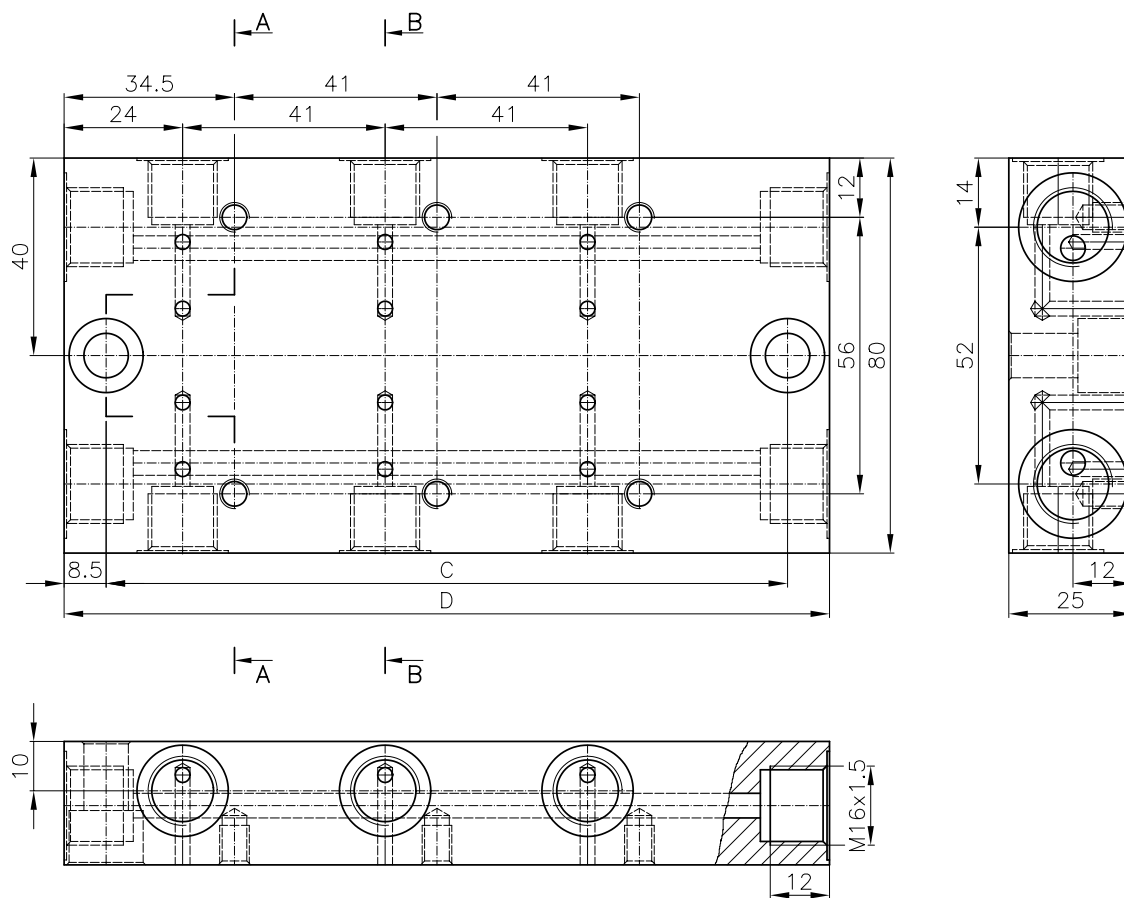
A-A



Pos	Name
1	Dosing unit body
2	Metering piston
3	Regulating head
4	Servo piston
5	Indicator rod
6	Distribution plug
7	Distribution tamping

Type	Code
ZVM-2	8 52 0791
ZVM-2P	8 52 0699

Name	DOSING UNIT	Tribotec s.r.o. Košuličova 4 Brno www.tribotec.cz +420 543 425 611
Type	ZVM-2, ZVM-2P	
Code		



Type	Code	C	D
1 ZVM	52 0601	56	73
2 ZVM	52 0602	97	114
3 ZVM	52 0603	138	155
4 ZVM	52 0604	179	196
5 ZVM	52 0605	220	237

Name	BASEPLATE	<b>©Tribotec</b> s.r.o. Košuličova 4 Brno www.tribotec.cz +420 543 425 611
Type	1 ZVM ÷ 5 ZVM	
Code		