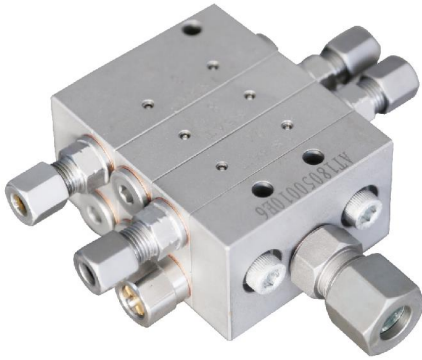
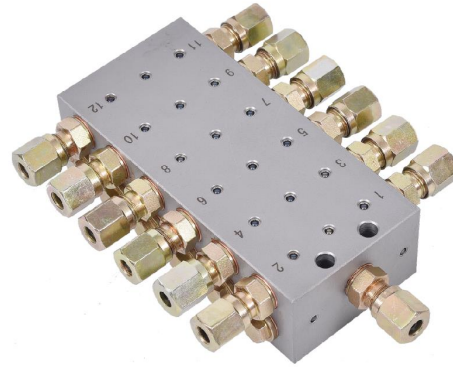


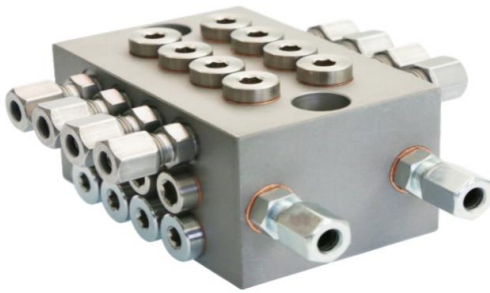
# Automatic Lubrication System – Metering Unit



**Progressive VPKA/VPKB**



**Progressive SSV/SSVA/SSVD**



**Dual Line DLA/DLB**



**Single Line LR-SLA**



## Overview Metering Unit

### Progressive Metering (Grease)

Product	Function Principle	Grease Thickness	Displacement	Outlets	Max. Input Pressure	Max. Output Pressure	Min. Start Pressure	Connection Inlet	Connection Outlet
		till	ml/cy		in bar	in bar	In bar		
LR-SSV	Block Metering Device	Up to 2	0.2	6-20	350 bar	200 bar	20 bar	M10*1	M10*1
LR-SSVA	Block Metering Device	Up to 2	0.2	6-20	350 bar	200 bar	20 bar	M10*1	M10*1
LR-SSVD	Block Metering Device	Up to 2	0.2	6-20	350 bar	200 bar	20 bar	M10*1	M10*1
LR-VPKA	Sectional Metering Device	Up to 2	0.08-0.32	6-18	300 bar	200 bar	20 bar	M10*1	M10*1
LR-VPKB	Sectional Metering Device	Up to 2	0.08-1.60	6-18	300 bar	200 bar	20 bar	M10*1	M10*1

### Dual Line Metering (Grease)

Product	Function Principle	Grease Thickness	Displacement	Outlets	Max. Input Pressure	Max. Output Pressure	Min. Start Pressure	Connection Inlet	Connection Outlet
		till	ml/cy		in bar	in bar	In bar		
LI-DLA	Sectional Metering Device	Up to 2	0.1-1.0	2-14	250 bar	250 bar	35 bar	M10*1	M10*1

### Single Line Metering (Oil/Fluid Grease/Grease)

Product	Function Principle	Grease Thickness	Displacement	Outlets	Max. Input Pressure	Max. Output Pressure	Min. Start Pressure	Connection Inlet	Connection Outlet
		till	ml/cy		in bar	in bar	In bar		
LR-SLA	Block Metering Device	Up to 2	0.2-0.6	6-16	250 bar	200 bar	70 bar	M10*1	M10*1
LRK-SLA	Rack Metering Device	Up to 0	0.13-0.4	4-20	63 bar	-	-	-	-

*For the distributor components like indicator rod, inlet fitting, outlet fitting, pressure sensor, fixing plate and external joint fitting please check the following pages.*

## Ordering Codes – Metering Unit

### Progressive Metering (Grease) For Ordering Codes of LR-VPKA/VPKB please check on Page X

Outlets	LR-SSV	LR-SSVA	LR-SSVD	LR-SSV with Indicator Rod	LR-SSVA with Indicator Rod	LR-SSVD with Indicator Rod	LR-SSV with Hall (Pressure) Sensor	LR-SSVA with Hall (Pressure) Sensor	LR-SSVD with Hall (Pressure) Sensor
6	LR-SSV6	LR-SSVA6	LR-SSVD6	LR-SSV6-I	LR-SSVA6-I	LR-SSVD6-I	LR-SSV6-H	LR-SSVA6-H	LR-SSVD6-H
8	LR-SSV8	LR-SSVA8	LR-SSVD8	LR-SSV8-I	LR-SSVA8-I	LR-SSVD8-I	LR-SSV8-H	LR-SSVA8-H	LR-SSVD8-H
10	LR-SSV10	LR-SSVA10	LR-SSVD10	LR-SSV10-I	LR-SSVA10-I	LR-SSVD10-I	LR-SSV10-H	LR-SSVA10-H	LR-SSVD10-H
12	LR-SSV12	LR-SSVA12	LR-SSVD12	LR-SSV12-I	LR-SSVA12-I	LR-SSVD12-I	LR-SSV12-H	LR-SSVA12-H	LR-SSVD12-H
14	LR-SSV14	LR-SSVA14	LR-SSVD14	LR-SSV14-I	LR-SSVA14-I	LR-SSVD14-I	LR-SSV14-H	LR-SSVA14-H	LR-SSVD14-H
16	LR-SSV16	LR-SSVA16	LR-SSVD16	LR-SSV16-I	LR-SSVA16-I	LR-SSVD16-I	LR-SSV16-H	LR-SSVA16-H	LR-SSVD16-H
18	LR-SSV18	LR-SSVA18	LR-SSVD18	LR-SSV18-I	LR-SSVA18-I	LR-SSVD18-I	LR-SSV18-H	LR-SSVA18-H	LR-SSVD18-H
20	LR-SSV20	LR-SSVA20	LR-SSVD20	LR-SSV20-I	LR-SSVA20-I	LR-SSVD20-I	LR-SSV20-H	LR-SSVA20-H	LR-SSVD20-H

### Single Line Metering (Oil/Fluid Grease/Grease)

Outlets	LR-SLA	LR-SLA with Pressure Sensor	Outlets	LRK-SLA	LRK-SLA with Pressure Sensor
4	LR-SLA4	LR-SLA4-P	4	LRK-SLA4	LRK-SLA4-P
6	LR-SLA6	LR-SLA6-P	6	LRK-SLA6	LRK-SLA6-P
8	LR-SLA8	LR-SLA8-P	8	LRK-SLA8	LRK-SLA8-P
10	LR-SLA10	LR-SLA10-P	10	LRK-SLA10	LRK-SLA10-P
12	LR-SLA12	LR-SLA12-P	12	LRK-SLA12	LRK-SLA12-P
14	LR-SLA14	LR-SLA14-P	14	LRK-SLA14	LRK-SLA14-P
16	LR-SLA16	LR-SLA16-P	16	LRK-SLA16	LRK-SLA16-P
			18	LRK-SLA18	LRK-SLA18-P
			20	LRK-SLA20	LRK-SLA20-P

### Dual Line Metering (Grease) For Ordering Codes of LI-DLA please check on Page 37

*For the distributor components like indicator rod, inlet fitting, outlet fitting, pressure sensor, fixing plate and external joint fitting please check the following pages.*

## Ordering Codes – Metering Unit

### Progressive Metering (Grease) – LR VPKA/VPKB (Ordering Codes)

Identification Code		LR-VPK	X	-	X	-	X	-	XXX	-	X	-	X
<b>Block Type</b>													
A=VPKA Type	B=VPKB Type												
<b>Number of Middle piece</b>													
3=2 middle pieces	4=3 middle pieces												
5=4 middle pieces	6=5 middle pieces												
7=6 middle pieces	8=7 middle pieces												
Min. 2 and Max. 7 middle pieces													
<b>Number of non-blinded Outlets</b>													
0= no blinded Outlets	X=Number of non-blinded Outlets												
X <= ((Number of Middle piece+1)*2)													
<b>Type of all Middle Pieces</b>													
8=Piece 8 (0.08 ml/cy per Outlet)	16=Piece 16 (0.16 ml/cy per Outlet)												
24=Piece 24 (0.24 ml/cy per Outlet)	32=Piece 32 (0.32 ml/cy per Outlet)												
64=Piece 64 (0.64 ml/cy per Outlet)	96=Piece 96 (0.96 ml/cy per Outlet)												
128=Piece 128 (1.28 ml/cy per Outlet)	160=Piece 160 (1.60 ml/cy per Outlet)												
L= section has been merged and grease comes out from <b>Left-Side</b>													
R= section has been merged and grease comes out from <b>Right-Side</b>													
AR= section has not been merged, grease comes out from <b>Both Sides</b> , on Right-Side the outlet of the section has been connected with the Right-outlet of the next section by an external 2 to 1 outlet connector ( <b>PMU-VPKO21</b> )													
AL= section has not been merged, grease comes out from <b>Both Sides</b> , on Left-Side the outlet of the section has been connected with the Left-outlet of the next section by an external 2 to 1 outlet connector ( <b>PMU-VPKO21</b> )													
ARL= section has not been merged, grease comes out from <b>Both Sides</b> , the outlets on both sides of the section have been connected with the corresponding outlets of the next section by 2 external 2 to 1 outlet connectors ( <b>PMU-VPKO21</b> ), and the next section must <b>not be merged</b>													
BR= section has not been merged, grease comes out from <b>Both Sides</b> , on Right-Side the outlet of the section has been connected with the Right-outlet of the next section by an external 2 to 0 outlet connector ( <b>PMU-VPKO20</b> ), and the next section <b>must be merged, and keeps the grease comes out from Left-Side of the section</b>													
BL= section has not been merged, grease comes out from <b>Both Sides</b> , on Left-Side the outlet of the section has been connected with the Left-outlet of the next section by an external 2 to 0 outlet connector ( <b>PMU-VPKO20</b> ), and the next section <b>must be merged, and keeps the grease comes out from Right-Side of the section</b>													
For ex. 8-8L-32AL-16AR-16=5 middle pieces, the sequence of the middle piece from Top piece to bottom piece is 1(8-8) 2(16-0) 3(0-32) 4(64-0) 5(16-32)													
Only VPKB has piece with flowrate 64/96/128/160													
<b>Type of bottom Piece</b>													
C=Piece 8 (0.08 ml/cy per Outlet)	D=Piece 16 (0.16 ml/cy per Outlet)												
E=Piece 24 (0.24 ml/cy per Outlet)													
L=section has been merged and grease comes out from Left Side													
R=section has been merged and grease comes out from Right Side													
Only Piece 8,16,24 can be chosen as the bottom Piece.													
<b>Additional Functions</b>													
N=Without any additional Function	P=With Indicator Rod												
Q=With Hall Sensor	M=With Indicator Rod and Hall Sensor												

**For the distributor components like indicator rod, inlet fitting, outlet fitting, pressure sensor, fixing plate and external joint fitting please check the following pages.**

## Ordering Codes – Metering Unit

### Dual Line Metering (Grease) – LI DLA (Ordering Codes)

Identification Code		LI-DLA	X	-	X	-	XXX	-	X	-	X
Number of Middle piece											
1=1 middle piece	2=2 middle pieces										
3=3 middle pieces	4=4 middle pieces										
5=5 middle pieces	6=6 middle pieces										
7=7 middle pieces	Min. 1 and Max. 7										
Number of blinded Outlets											
0= no blinded Outlets	X=Number of blinded Outlets										
X <= (Number of Middle piece*2)											
Type of all Middle Pieces											
10=Piece 10 (0.10 ml/cy per Outlet)	20=Piece 20 (0.20 ml/cy per Outlet)										
40=Piece 40 (0.40 ml/cy per Outlet)	60=Piece 60 (0.60 ml/cy per Outlet)										
80=Piece 80 (0.80 ml/cy per Outlet)	100=Piece 100 (1.00 ml/cy per Outlet)										
AR= section has not been merged, grease comes out from <b>Both Sides</b> , on Right-Side the outlet of the section has been connected with the Right-outlet of the next section by an external 2 to 1 outlet connector ( <b>DMU-DLO21</b> )											
AL= section has not been merged, grease comes out from <b>Both Sides</b> , on Left-Side the outlet of the section has been connected with the Left-outlet of the next section by an external 2 to 1 outlet connector ( <b>DMU-DLO21</b> )											
For ex. 10-10-80AL-20-20=5 middle pieces, the sequence of the middle piece from Top piece to bottom piece is 1(10-10) 2(10-10) 3(0-80) 4(100-20) 5(20-20)											
Internal Merge of Bottom Piece											
L=pre merged	M=no Merging										
Additional Functions											
N=Without any additional Function	P=With Indicator Rod										
Q=With Hall Sensor	R=With Indicator Rod and Hall Sensor										

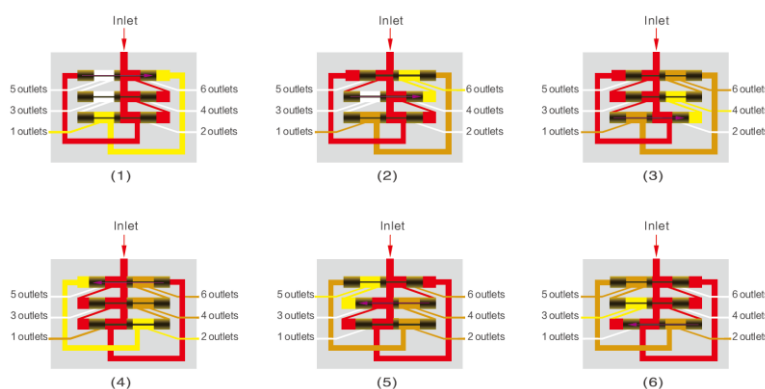
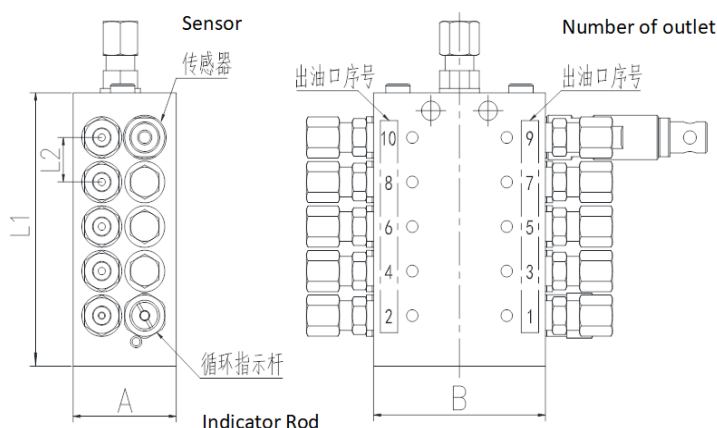
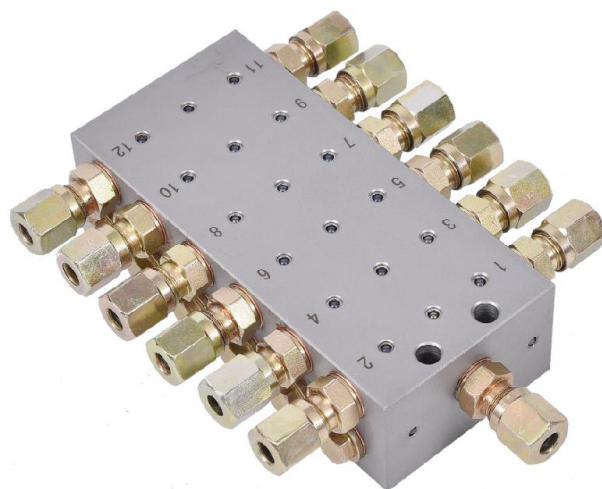
*For the distributor components like indicator rod, inlet fitting, outlet fitting, pressure sensor, fixing plate and external joint fitting please check the following pages.*



## Progressive Metering (Grease) – LR SSV/SSVA

LR SSV/SSVA type metering device is a compact single block progressive piston-type metering device. For direct mount of fittings with no need of any sealing in-between. Specially designed for small output needs, small spaces due to its small dimensions and short distances. Available with pin indicator for visual system monitoring.

The nominal discharge of each cycle is 0.2 mL/cy for the uncombined outlet, in which the nominal displacement of 0.15 mL/cy; for each cycle of the indicator rod corresponds to the combined outlet, and the displacement of each cycle is the sum of the output of the combined outlet. The allowable deviation of all outlet discharge is  $\pm 10\%$ .



### Dimensions (excluding Inlet/Outlet Fittings)

Outlets	A (mm)	B (mm)	L1 (mm)	L2 (mm)	L3 (mm)
6			62		
8			77		
10			92		
12	36	60	107	15	20
14			122		
16			137		
18			152		
20			167		

**More details for the distributor accessories like input/output fitting, closure plug and pressure sensor please check the following pages.**

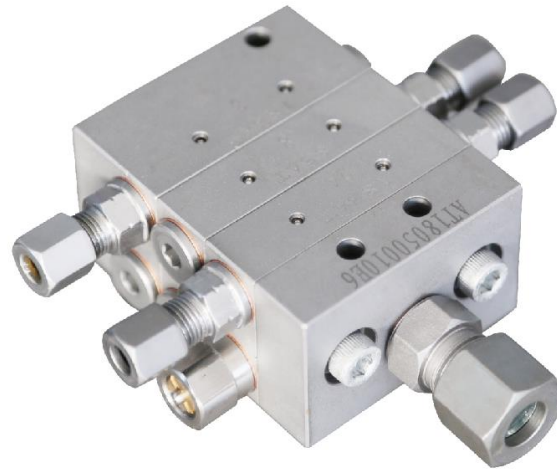
### Technical data

Function principle:	Block metering device
Outlets:	6-20
Lubricant:	Grease up to NLGI 2
Input Pressure:	350 bar
Connection Input:	M10×1
Output Pressure:	200 bar
Connection Output:	M10×1
Start Pressure:	20 bar
Displacement:	0.2 mL/cy
Working Temperature:	-25 to +70 °C
Material:	Steel
Surface treatment (Coating):	Zn-Ni plated (free of Cr-VI)

## Progressive Metering (Grease) – LR VPKA/VPKB

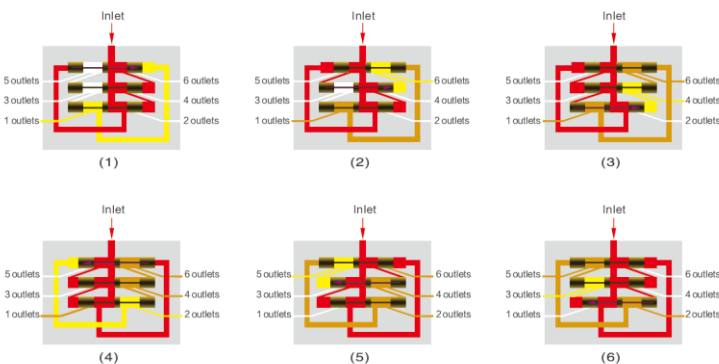
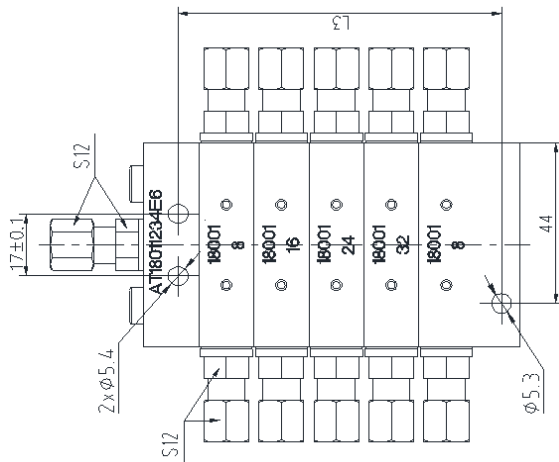
The Progressive VPKA/VPKB type metering device is a sectional metering device. Its metering sections cover a metering volume per outlet and cycle of 0,08 ml to 1,60 ml. All sections (inlet, intermediate, end) are tightened via tie rods. The delivery ducts are sealed by porting plates in-between the segments. A minimum of three intermediate sections is necessary.

For each cycle of the indicator rod corresponds to the combined outlet, and the displacement of each cycle is the sum of the output of the combined outlet. The allowable deviation of all outlet discharge is  $\pm 10\%$ .



**Dimensions** (excluding Inlet and Outlet Fittings)

Outlets	Width (mm)	Depth (mm)	L1 (mm)	L2 (mm)	L3 (mm)
6	56	36	71	15	57.2
8			86		72.0
10			101		86.7
12			116		101.5
14			131		116.2
16			146		131.0



**More details for the distributor accessories like input/output fitting, closure plug and pressure sensor please check the following pages from x to x in this catalogue.**

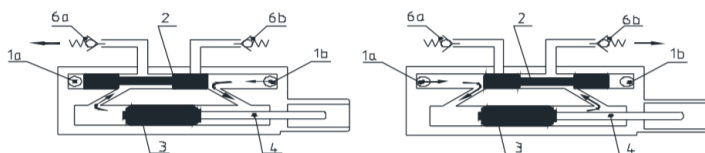
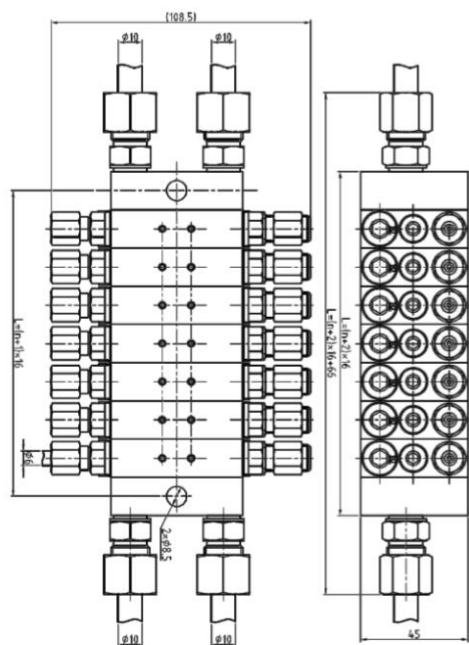
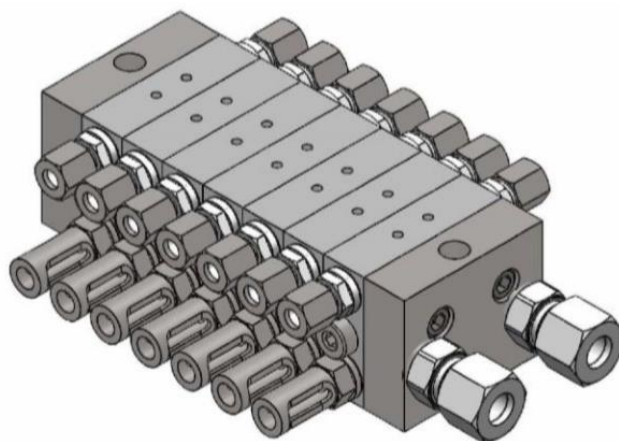
### Technical data

<b>Function principle:</b>	Sectional metering device
<b>Outlets:</b>	6-18
<b>Lubricant:</b>	Grease up to NLGI 2
<b>Input Pressure:</b>	300 bar
<b>Connection Input:</b>	M10×1
<b>Output Pressure:</b>	200 bar
<b>Connection Output:</b>	M10×1
<b>Start Pressure:</b>	20 bar
<b>Displacement:</b>	0.08 – 1.60ml/cy
<b>Working Temperature:</b>	-25 to +70 °C
<b>Material:</b>	Steel
<b>Surface treatment (Coating):</b>	Zn-Ni plated (free of Cr-VI)

## Dual Line Metering (Grease) LI-DLA

The Dual Line LI-DLA type metering device is a sectional metering device. Its metering sections cover a metering volume per outlet and cycle of 0,10 ml to 1,00 ml. All sections (inlet, intermediate, end) are tightened via tie rods. The delivery ducts are sealed by porting plates in-between the segments. A minimum of ONE intermediate sections is possible.

For each cycle of the indicator rod corresponds to the combined outlet, and the displacement of each cycle is the sum of the output of the combined outlet. The allowable deviation of all outlet discharge is  $\pm 10\%$ .



*More details for the distributor accessories like input/output fitting, closure plug and pressure sensor please check the following pages from x to x in this catalogue.*

### Dimensions (excluding Inlet and Outlet Fittings)

Outlets	A (mm)	B (mm)	L1 (mm)	L2 (mm)
2	45	60	64	48
4			96	80
6			128	112
8			160	144
10			192	176
12			224	208
14			256	240

### Technical data

Function principle:	Sectional metering device
Outlets:	2-14
Lubricant:	Grease up to NLGI 2
Input Pressure:	250 bar
Connection Input:	M10×1
Output Pressure:	250 bar
Connection Output:	M10×1
Start Pressure:	20 bar
Displacement:	0.1/0.2/0.4/0.6/0.8/1.0 ml/cy
Working Temperature:	-25 to +70 °C
Material:	Steel
Surface treatment (Coating):	Zn-Ni plated (free of Cr-VI)



## Single Line Metering (Grease) LR-SLA

The Single Line LR-SLA type metering device is a block metering device. Its metering sections cover a metering volume per outlet and cycle of 0,20 ml to 0,60 ml. For direct mount of fittings with no need of any sealing in-between. Specially designed for small output needs, small spaces due to its small dimensions and short distances. Available with pin indicator for visual system monitoring.

For each cycle of the indicator rod corresponds to the combined outlet, and the displacement of each cycle is the sum of the output of the combined outlet. The allowable deviation of all outlet discharge is  $\pm 10\%$ .

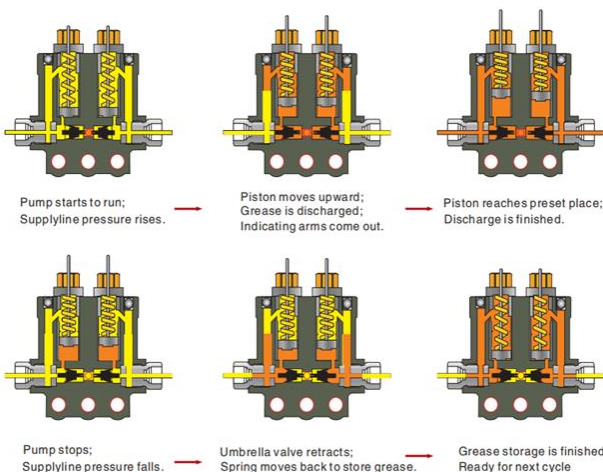
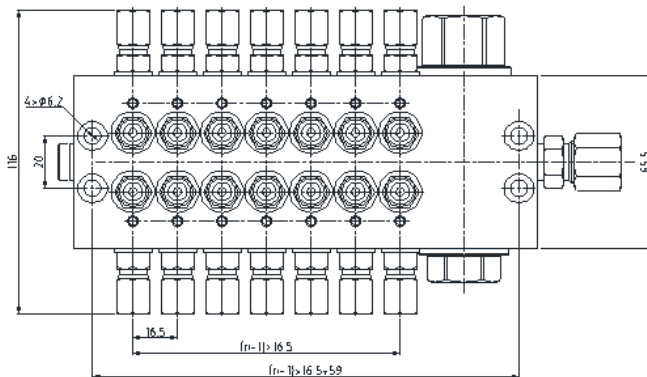


### Dimensions (excluding Inlet and Outlet Fittings)

Outlets	Width (mm)	Depth (mm)	L1 (mm)	L2 (mm)	L3 (mm)
4	65.5	67.8	91.5	16.5	75.5
6			108.0		92.0
8			124.5		108.5
10			141.0		125.0
12			157.5		141.5
14			174.0		158.0

### Technical data

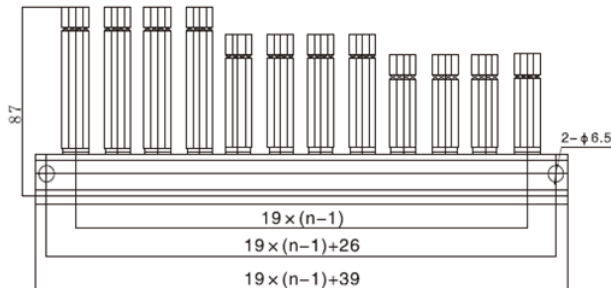
Function principle:	Block metering device
Outlets:	4-14
Lubricant:	Grease up to NLGI 2
Input Pressure:	250 bar
Connection Input:	M10×1
Output Pressure:	200 bar
Connection Output:	M10×1
Start Pressure:	70 bar
Displacement:	0.2/0.4/0.6 ml/cy
Working Temperature:	-25 to +70 °C
Material:	Steel
Surface treatment (Coating):	Zn-Ni plated (free of Cr-VI)



**More details for the distributor accessories like input/output fitting, closure plug and pressure sensor please check the following pages from x to x in this catalogue.**

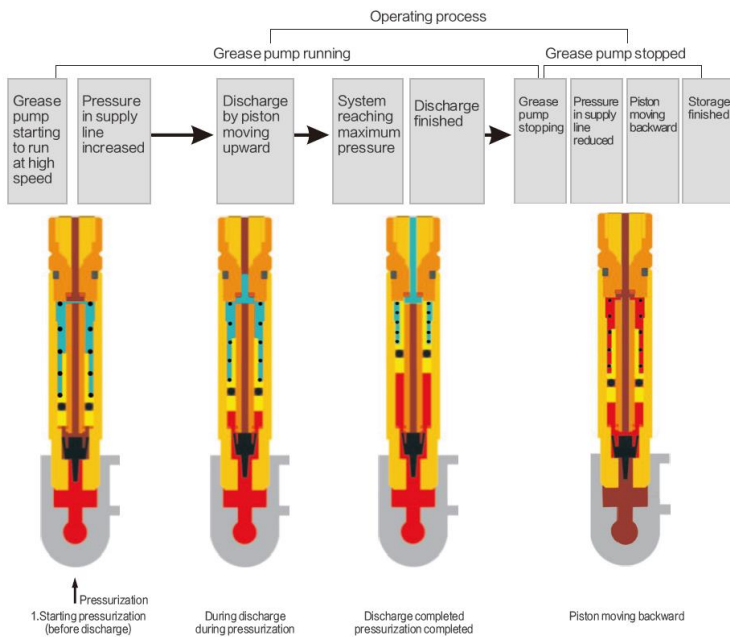
## Single Line Metering (Oil/Fluid Grease) LRK-SLA

The pressurized single line LRK-SLA type metering device is a rack type metering device. Its metering sections cover a metering volume per outlet and cycle of 0,13 ml to 0,40 ml. According to the needs of the greasing points, the volume of the outlet fitting can be amounted very easily.



### Dimensions

Outlets	Max. Height (mm)	Depth (mm)	Width W1 (mm)	Width W2 (mm)
4	87	22	83	96
6			121	134
8			159	172
10			197	210
12			235	248
14			273	286
16			311	324
18			349	362
20			387	400



### Technical data

Function principle:	Rack metering device
Outlets:	4-20
Lubricant:	Grease up to NLGI 0
Input Pressure:	63 bar
Displacement:	0.13/0.2/0.4 ml/cy
Working Temperature:	-40 to +70 °C
Material:	Steel/Copper
Surface treatment (Coating):	Zn-Ni plated (free of Cr-VI)

*More details for the distributor accessories like input/output fitting, closure plug and pressure sensor please check the following pages from x to x in this catalogue.*