

Progressive distributor VPA-B Use: In progressive mode based central lubrication systems.

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The main features of WOERNERprogressive distributors are as follows:

- Accurate proportioning volumes.
- Clear and precise arrangement of control channels in spite of small-size construction.
- Modular system construction. Quick fault remedy possible without having to loosen the pipeline.
- 3 different proportioning volumes selectable in accordance with the lubricant required.
- Extremely long service life due to refined sliding surfaces.
- **Pluggable monitoring elements** can be replaced during operation.
- No proportioning decrease at the piston monitored.

Technical data:

Proportioning volume per cycle:	0,09 0,2 cm ³
Lubrication point connections at max.:	20
Operating pressure at ma	ax.: 150 bar
Throughput volume in ca Oil at max.: Grease at max.:	ise of: 700 cm³/min 70 cm³/min
Delivery medium: Oil-viscosity: Grease up to:	>6 cP NLGI-category 2
Material: Proportioning block: Internal parts: Connecting plate:	Aluminium Steel Aluminium
Temperature range:	-20 +80 °C
Mounting position: Note: In case of I shock load, install th that piston axes are s the main direction of An optimum ventila lubrication system is for its functionally saf For quicker ventilative tion from bottom to the	heavy vibration or he distributor such situated vertically to shock impact. ation of the whole s the precondition fe operation. on, the flow direc-

is of advantage (inlet on bottom side). The distributor must not be "distorted". Therefore when mounting it, always be careful that the supporting surface is level.

$ \begin{array}{c} & & & \\ & & & \\ & & \\ & & \\ & & & \\ & & \\ & & & $	2 2 2 2 2 3 5 4 5 7 6 7 7 7 8 7 7 8 7 7 8 8 8 7	D.4x6		
A = Mounting point at distributor (for	Number of outlets	Length "a"	Length "s"	Weight kg
viewing indicator and electrical functionality check)	6	97	-	0,50
B = Mounting point for viewing indicator	8	114	-	0,65
at distributor (if point A is occupied) D = Proportioning block DPA-B	10	131	-	0,80
H = Main line	12 14	153 170	68 85	0,95
K = Proportioning volume distinctive	14	170	85	1,10
number R = Connecting plate APA-B				1,25
S = mid fastening screw	18	204	102	1,40

a

Progressive distributor VPA-B 205.300

S = mid fastening screw

EUGEN WOERNER GmbH & Co. KG Postfach 1661 DE-97866 Wertheim Hafenstrasse 2 DE-97877 Wertheim Tel. +49 9342 803-0 info@woerner.de Fax. +49 9342 803-202 www.woerner.de

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Version "W":

Casing material:	Polyamide, black
for initiators with a sw	witching
distance of:	≥5 mm

Use initiator with M18x1 thread! (When using other initiators than those depicted below, such initiators must be checked for suitability.)

Designation / Purchase-no.	Initiator "C" 913.900-03	Initiator "N" 913.900-21
Dimension drawing:	A 580 14 SW24 LED	
Connection diagram:	I BN L+ BK o BU L-	
Switching distance:	8 mm	8 mm
Operating voltage:	10 30 VDC	10 30 VDC
Residual ripple:	≤10%	≤15%
Load current at max .:	250 mA	130 mA
Protection system:	IP67	IP67
Power connection:	Cable 3 m	Unit plug (see accessoires page 3)
Length "A":	76,5 mm	45 mm

Choice of initiators:

EUGEN WOERNERGmbH & Co. KGPostfach 1661DE-97866Hafenstrasse 2DE-97877WertheimTel. +49 9342 803-0Fax. +49 9342 803-202www.woerner.de

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Electrical check with reed contact:

A magnet connected with the piston switches the reed contact once per cycle.

Switching voltage:	10 36 VUC
Switching current at max.:	25 mA
Switching power at max.:	0,9 VA
Ambient temperature:	-5 +80 °C
Mounting pointat distributor:	A

Version "R" with plug-in connection EN 175301-803, shape A: Material (casing): Al or 1.4305 System of protection: IP65 Connection **100** Ω diagram: 2 3 Version "RK" with cable: PA or 1.4305 Material (casing): System of protection: IP65 Cable 10 m Length: 2x0,75 mm² Cross section: Material: Oilflex Connection diagram: 100 Ω - BU ΒN Version "RS"

with unit plug 4 pin (M12): (for matching cable jack see accessories) Material (casing): PA or 1.4305 Connection **100** Ω diagram:

Cable jack with LED and cable:

Purchase-no.: Operating voltage:	913.404-19 10 30 VDC
Cable	
Cross section:	3x0,34 mm ²
Length:	5 m
System of protection:	IP68

Cable jack with terminal clamps: (without LED)

Purchase-no.:	913.404-24
Connection type:	Screws
Connection cross section:	at max. 0,75 mm ²
Cable diameter:	4 6 mm
System of protection:	IP67

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Version "R" 47.4 65.4 46



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Version "RK"





Version "RS"





Accessories:

Cable jack for functionality check "RS" and initiator



(state purchase-no., please)



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Purchase-desi	ignat	tion: Pro	gressive	distributor						
Number of outlets		Visual	check	Functionality chec	1	ator	Proportioning piston strok in c	e and outlet	Gasket ma	aterial
6 20 increasing b	21/	without	0	without 0 Reed Contact RK (RS)	without	0	0,09	@	NBR (Perbunan)	٩
2 outlets each	<i>.</i> ,	with	3	translucent (D^{1}) initiator casing switching distance ≥ 8 mm		N	0,14	14	FPM (Viton)	V
				reinforced initiator casing		©	0,20	20		
Purchase-designation: Proportioning block										
Purchase-desi	Purchase-designation: Connecting plate									

Note:

When a functionality checking device is to be added on, the proportioning volume must be 0,20 cm³ at least at the last point!

¹⁾ Resistance of the transparent case of the proximity switch "D" to synthetic lubricants and additives as well as to other consumables cannot be assured. The application under the planned conditions of operation, as fundamental rule, has to be checked. If required, the reinforced case "W" is to be used. If additional sight check is wanted, then the visual indicator "S" can be installed.



Purchase-example: (for the distributor as depicted here)

Progressive distributor with 12 outlets, without visual check "0", with receptacle for initiator "W" and initiator "C", proportioning distinctive numbers "20", "20", "09", "14", "14", "20", gasket material "P".

Purchase-designation:

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VPA-B / 12 / 0 / W / C / 20 / 20 / 09 / 14 /
14 / 20 / P
Side A (R) : P / P / A / V / 0 / 0
Centre : K / K / Z / K / Z / Z
Side B (L) : B / B / 0 / 0 / B / A
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Combination of outlets, doubling the proportioning volume at an outlet: Connect opposing outlets by removing the "Z" screw. Close any of the outlets by means of a screwed sealing plug. Without removal of the "Z" screw, no outlet must be locked.



Accessories:

Only in conjunction with progressive distributor. For spare parts see spare part list E0117.

Pipe screw fittings DIN 2353: (please state purchase-no.)

Connection		Pipe scre	w fitting with pi	Check valve with pipe-outerø				
thread	4	6	8	4	6	8		
G 1/8	951.100-04	951.103-63E	951.100-06	-	-	501.060-65	501.065-65	501.070-65

Bridges and lock screw: (please state purchase-no.)

	Brid	ges		Bridges (location of the mid fastening screw "S")				Lock screw
double without outlet (B-B)	triple without outlet (P-P-P)	double with outlet (B-A)	triple with outlet (P-P-A)	double without triple without double with triple with outlet (B-B) outlet (P-P-P) outlet (B-A) outlet (P-P-A)				"V"
205.280-65	205.285-65	205.290-65	205.295-65	205.240-65	205.287-65	205.250-65	205.296-65	179.015-65
· · · · · ·		Position of the mid fastening screw "S"						

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Postfach	1661	DE	-97866	Μ	/erth	eim
Hafenstra	asse 2	DE	-97877	Μ	/erth	eim
Tel. +49	9342 803-0)	info@v	vo	erne	r.de
Fax.+49	9342 803-2	202	www.v	VO	erne	r.de

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Functional process figures 1 ... 4:

The lubricant flows from the main line through the right-side ring groove of piston III as well as the bypass line (right) and to the left side of piston I and moves it into its home position. The lubricant displaced by piston I is ejected via the left bypass line through outlet no. 6.

After shifting of piston I, lubricant flows to the left side of piston II and pushes it into its right-side home position. The displaced lubricant is ejected via outlet no. 1.

After shifting of piston II, lubricant flows to the left side of piston III and pushes it into its right-side home position. The displaced lubricant is ejected via outlet no. 2.

After shifting of piston III, lubricant flows to

the right side of piston I and pushes it into its

left-side home position. The displaced lubricant is ejected via outlet no. 3. The continuation of that process is evidenced in

the scheme depicted.

Monitoring of progressive distributors:

As for instance due to soiling, the flow through a lubricant point line may be prevented. This will cause a piston to get blocked. By virtue of the forced control as depicted in figures 1 up to 4, the other pistons will be stopped as well.

Due to this configuration, the proportioning at all outlets of the distributor can be monitored by means of a sensor at one piston only.

Setting of the initiator:

- 1. Switching on the pump (distributor circulates)
- 2. Screwing the initiator completely in. In the case of a permanent signal, turning back the initiator as far as an alternating signal occurs
- 3. Turning back the initiator until no signal is released
- Setting the initiator between the limit values "2 (alternating) and "3 (no signal)"
- 5. Secure the initiator with a counter nut.

Mounting note:

The pistons are provided with an extremely small fitting clearance. Therefore, the pistons, after the dismantling of a distributor, must never be interchanged.

Formula for calculating the lubricant available per lubrication point:

A progressive distributor allocates the delivered lubricant to the individual lubrication points in forced order. Due to the functional process as described herein, a safe proportioning is ensured.

The lubricant q_i delivered to a lubrication point i can be calculated as follows

$$q_i = \frac{K_i}{2*(K_1+K_2+K_3...)}*Q$$

Q = lubricant delivered to the distributor,

K_i = distinctive number of the outlet i

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Technical documents also valid for this product:

B0336 Operating instructions VP

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