

INDEX

	Page
1. General	2
2. Safety	2 – 4
A. Distributor type	4
B. Number of outlets	5
C. Inspection	5
D. Metered volume 1 outlet	5
E. Metered volume 2 outlet	5
F. Metered volume 3 outlet	5
3. Design	5
4. Principle of operation	6
5. Specification	7
6. Installation	8
7. Start-up	8
8. Disassembly and Assembly	8 – 9
9. Operating troubles and their reasons	9
10. Plates	9



1. General

Prior to start up, we recommend to read these operating instructions carefully as we do not assume any liability for damages and operating troubles which result from the nonobservance of these operating instructions!

Any use beyond the applications described in these operating instructions is considered to be not in accordance with the product's intended purposes. The manufacturer is not to be held responsible for any damages resulting from this: the user alone bears the corresponding risk.

As to figures and indications in these operating instructions we reserve the right to make technical changes which might become necessary for improvements.

The copyright on these operating instructions is kept reserved to the company DELIMON. These operating instructions are intended for the erecting, the operating and supervising personnel. They contain regulations and drawings a technical nature which must not – completely or partially - be distributed nor used nor communicated to others without authorization for competition purposes.

Company address, spare parts and service address

DELIMON GmbH

Arminstraße 15

D-40277 Düsseldorf

Phone : +49 211 77 74-0

Fax : +49 211 77 74-210

Branch office

Am Bockwald 4

D-08344 Grünhain-Beierfeld

E-mail : kontakt@bijurdelimon.com

www.bijurdelimon.com

2. Safety

These operating instructions contain fundamental instructions which are to be observed during erection, operation and maintenance. Therefore it is absolutely necessary for the fitter and the competent qualified staff/user to read these operating instructions before installation and start-up. The operating instructions must be available at all times at the place of use of the machine/system.

Not only the general safety instructions stated under this main point "safety" are to be observed, but also the other specific safety instructions stated under the other main points.

2.1 Identification of safety warnings in the operating instructions

The safety warnings contained in these operating instructions which, if not observed, may cause dangers to people, are specially marked with general danger symbols



safety sign according to DIN 4844, warning about a danger spot ,

in case of warning about electric voltage with



safety sign according to DIN 4844, warning about dangerous electric voltage.

In case of safety instructions which, if not observed, may cause damage to the machine and its function, the word

ATTENTION

is inserted.

Instructions that are directly attached to the machine, as for example

- rotational direction arrow
- identifications for fluid connections

must be observed at all events and maintained in a fully legible condition.

- Note: There is an increased skid risk in case of spilled/leaked out lubricants. They are to be removed at once properly.



Safety sign according to DIN 4844, warning about skid risk.

2. Safety (continuation)

2.2 Personnel qualification and training

The operating, maintaining, inspecting and erecting personnel must have the appropriate qualification for such work. Area of responsibility, competence and supervision of the personnel have to be regulated by the user. If the personnel do not have the necessary knowledge, they have to be trained and given instructions. This can be effected, if necessary, by the manufacturer/supplier on behalf of the user of the machine. Furthermore, the user has to make sure that the contents of the operating instructions are fully understood by the personnel.

2.3 Dangers in case of nonobservance of the safety instructions

The nonobservance of the safety instructions may result in hazards to persons, to the environment and to the machine. The nonobservance of the safety instructions may lead to the loss of any claims for damages.

In detail, the nonobservance may for instance lead to the following hazards:

- Failure of important functions of the machine/system
- Failure of prescribed methods for maintenance and repair
- Hazard to persons by electrical, mechanical and chemical influences
- Hazard to the environment by the leakage of dangerous substances

2.4 Safety conscious working

The safety instructions stated in these operating instructions, the existing national regulations as to the accident prevention as well as possible internal working, operating and safety rules of the user are to be observed.

2.5 Safety instructions for the user/operator

- If hot or cold machine parts lead to dangers, these parts have to be protected against touch.
- Protection against touch for moving parts (e. g. coupling) must not be removed when the machine is in operation.
- Leakages (e. g. from the shaft seal) of hazardous goods to be delivered (e. g. explosive, toxic, hot) are to be removed in such a way that there is no danger to persons and environment. Legal rules are to be observed.
- Hazards caused by electrical power are to be excluded (for details please refer for instance to the rules of the VDE and the local power supply companies).

2.6 Safety instructions for maintenance, inspection and installation work

The user has to take care that all the maintenance, inspection and installation work is executed by authorized and qualified skilled personnel who have informed themselves adequately by thoroughly studying the operating instructions.

Basically, work on the machine is only to be carried out during shut-down. It is obligatory to observe the shut-down procedure described in the operating instructions.

Pumps or pump aggregates that deliver media being hazardous to health have to be decontaminated. Immediately after completion of the work, all safety and protective equipments have to be reinstalled and/or reactivated.

- Advice: When working with compressed air, do wear glasses.



(DIN 4844 – Use breathing mask)

- Advice: Observe EC-Safety Data Sheet for materials of consumption and additives used and use personal protective equipment.



(DIN 4844 – Use breathing mask)

Before recommissioning, observe the points stated in section “initial start-up”.

2.7 Unauthorized conversion and manufacture of spare parts

Conversion or modifications to the machine are only permitted when agreed with the manufacturer. Original spare parts and accessories authorized by the manufacturer serve to ensure safety. The use of other parts may render the liability for consequential losses null and void.

2. Safety (continuation)

2.8 Unacceptable modes of operation

The operational reliability of the machine supplied is only guaranteed if the machine is used in accordance with its intended purposes as per section 1 - General - of the operating instructions. The limiting values specified in the data sheet must on no account be exceeded.

2.9 Guidelines & standards

1., 2. and 3. guideline (see data sheet: R&N_2009_X_GB)

3.0 Notes on environmental protection and waste disposal

In correct operation with lubricants, the components are subject to the special requirements set by environmental legislation.

The general requirements for lubricants are specified in the respective safety data sheets.

Used lubricants are hazardous forms of waste and therefore require special supervision in the sense of § 41 paragraph 1 sentence 1 and paragraph 3 no. 1 of KrW-/AbfG (Closed-Loop Waste Management Act).

Used oils must be handled in compliance with AltölV (Waste Oil Ordinance).

The devices or components contaminated with lubricant must be disposed of by a certified waste management company.

Records of proper waste management must be filed in conformance to NachwV (Ordinance on Waste Recovery and Disposal Records).

GENERAL PRODUCT CHARACTERISTICS

- Single-line distributor
- Grease and oil
- up to 3 outlets
- Metered volume: 0,1; 0,2; 0,4; 0,6; 0,8; 1,0 cm³

A. DISTRIBUTOR TYPE ZEC

B. NUMBER OF OUTLETS

- 1 outlet
- 2 outlet
- 3 outlet

C. INSPECTION

Stage A

D. METERED VOLUME 1 OUTLET

- 0.1 cm³
- 0.2 cm³
- 0.4 cm³
- 0.6 cm³
- 0.8 cm³
- 1.0 cm³

E. METERED VOLUME 2 OUTLETS

- without
- 0.1 cm³
- 0.2 cm³
- 0.4 cm³
- 0.6 cm³
- 0.8 cm³
- 1.0 cm³

F. METERED VOLUME 3 OUTLETS

- without
- 0.1 cm³
- 0.2 cm³
- 0.4 cm³
- 0.6 cm³
- 0.8 cm³
- 1.0 cm³

3. Design

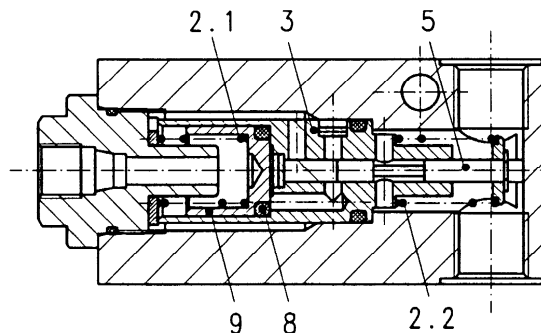
The lubricant distributors ZE-C are manufactured as compact unit with 1, 2 or 3 outlets. The metered volume is released with the pressure cycle and can be chosen separately for each outlet due to appropriate metering screws (item no. 12).

Advantages of lubricant distributors ZE-C

- Low price
- Little space
- Precise metering
- The metered volume is delivered to the direction point independently of the counterpressure of the same.
- Installation at any position
- Extension and modification of existing plants without great expenditure.

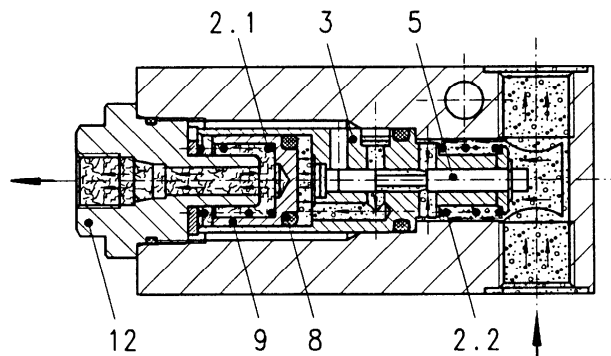
4. Principle of operation

Idle position



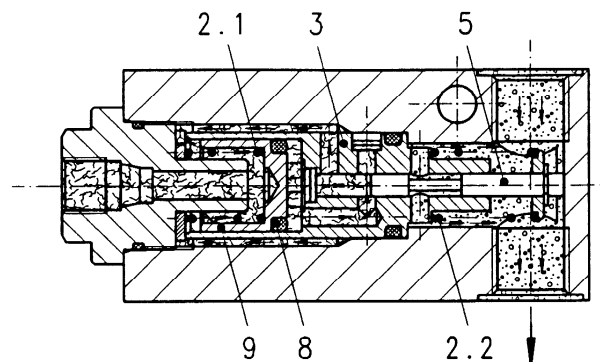
The main line is relieved. The compression spring (item no. 2.2) presses the control piston (item no. 5) into its right final position. The delivery piston (item nos. 8 and 9) is also pressed into its right final position by the compression spring (item no. 2.1).

Compression stroke



Due to the pressure build-up in the main line, the control piston (item no. 5) is moved against the force of the compression spring (item no. 2.2) to the left. This causes lubricant - via the channel system of the housing (item no. 3) - to get underneath the delivery piston (item nos. 8 and 9) and displaces the same also against the force of the compression spring (item no. 2.1) to the left. Due to the displacement of the delivery piston (item no. 8 and 9), the lubricant being stored in front of the delivery piston (item nos. 8 and 9) on the left, is pressed into the line towards the friction point by the metering screw (item no. 12).

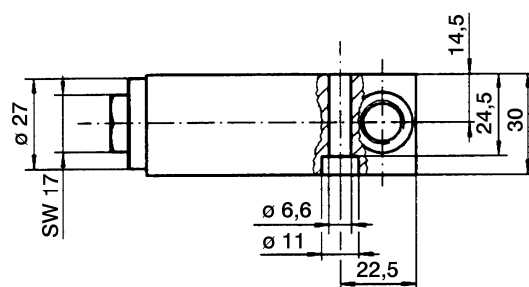
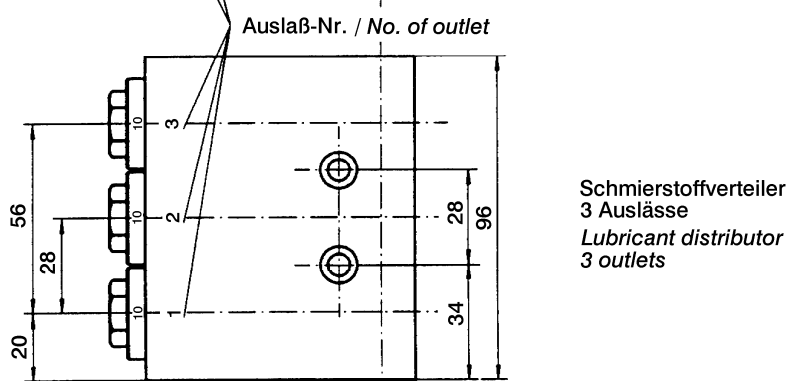
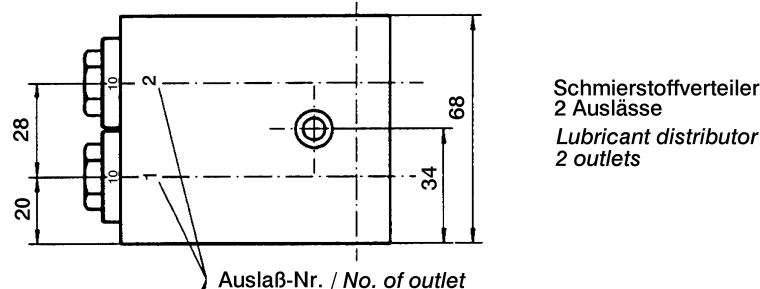
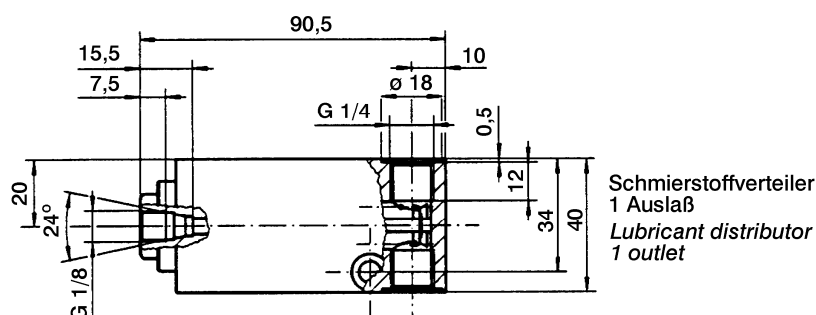
Relief stroke



When the main line is being relieved, the control piston (item no. 5) is pressed to the right by the force of the compression spring (item no. 2.2). The space in the distributor towards the main line is sealed. By this, the channel system of the housing (item no. 3) is released from the right to the left side of the delivery piston (item nos. 8 and 9). The force of the compression spring (item no. 2.1) causes the delivery piston (item nos. 8 and 9) to be displaced to the right and, as a result, the lubricant is rearranged from the right side to the left side of the delivery piston (item nos. 8 and 9).

5. Specification

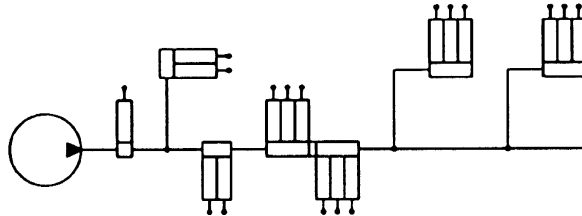
Operating pressure	max. 160 bar
Service pressure :	between 50 and 160 bar
Relief pressure	max. 25 bar
Metering volume	0.1; 0.2; 0.4; 0.6; 0.8 and 1.0 cm ³
Operating volume	0.1 cm ³
Number of outlets	1, 2 or 3
Operating temperature	between - 20°C and + 80°C
Compatible lubricants on basis of mineral oils :	Grease NLGI-class 000 to 2 DIN 51818 (51825)
	Oiles off viscosity 460 mm ² /s at operating temperature, Synthetic lubricants on request
Installation position :	optional
Materials	Al, St, Brass and NBR



6. Installation

The lubricant distributors ZE-C can be installed in any position (optional). It is possible to link several lubricant distributors by nipples. The arrangement of the main line is also possible.

The easiest, most maintenance-friendly installation with good deaeration possibilities is achieved when individual lubricant distributors are arranged in secondary delivery lines with the outlets pointing to the top.



The last distributor in the system has always to be installed with the outlet(s) pointing to the top in order to make an easy deaeration possible.

7. Start-up

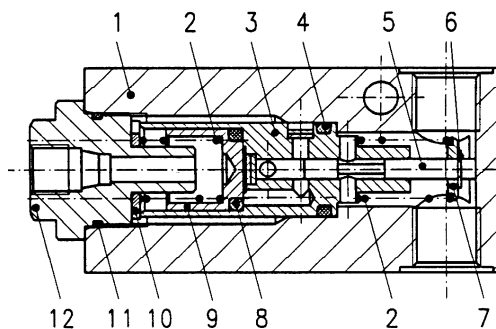
The lines leading to the friction points should not be connected before the pump works perfectly, the main line is filled with lubricant and - when the pump is actuated - lubricant comes out of the distributor outlets without air bubbles.

Before connecting friction point lines to the lubricant distributor, fill them with lubricant to ensure that lubricant is available at the friction points just after commissioning.



The lubricant distributors ZE-C must not be pressurized with an actuating pressure > 160 bar.

8. Disassembly and Assembly



The user has to take care that all kinds of maintenance inspectional and assembly works are carried out by authorized and qualified specialists who have informed themselves sufficiently by studying the operating instructions thoroughly.



For all kind of works to be carried out at the machine or system, the machine or system must imperatively be out of operation. The procedure for stopping the machine or system described in the operating instructions must by all means be observed.

8. Disassembly and Assembly (continuation)



- Shut down machine or system according to the relevant instructions.
- Loosen line and/or lines leading from the lubricant distributor to the friction point and remove lubricant distributor from the main line and/or secondary delivery line.
- Remove metering screw (item no. 12) from the lubricant distributor.
- Remove compression spring (item no. 3) and washer (item no. 10).
- Remove piston (item no. 9) with o-ring (item no. 8).
- Control insert (item 3 to 6) pull out from housing (item 1).
- Dismantle control insert.
- Clean parts in naphtha or petroleum ether,
- Check parts for damages.
- Replace damaged parts.
- Assemble lubricant distributor in reverse order.
- Install lubricant distributor into the main line and/or secondary delivery line and reconnect line and/or lines towards the friction point.

ATTENTION

Deaerate centralized lubrication system prior to commissioning of the machine or plant.



- Dispose of oil and cleanser according to rule.

9. Operating troubles and their reasons

Premature wear of the movable parts and the seals of the lubricant distributor is mainly caused by contaminated lubricant.

Failures in the system are above all a result from the fact that the lubricant lines have not been vented perfectly.

10. Plates

Type plate



Type

www.bijurdelimon.com