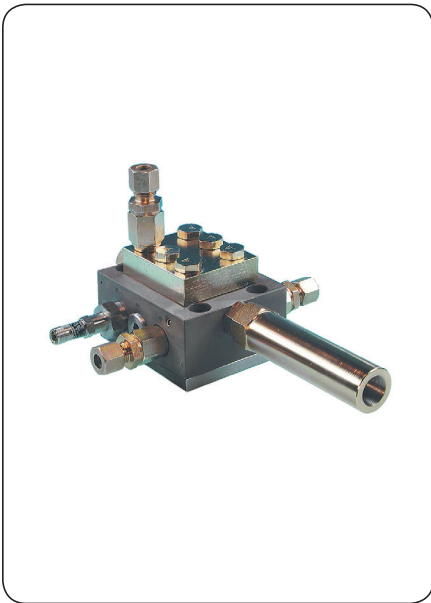


Change-over valves, differential pressure switch

# Accessories for Dual-line Systems

For grease

For application in SKF DuoFlex dual-line centralized lubrication systems



## Change-over valves

Hydraulic or electrical change-over valves are used in SKF DuoFlex dual-line centralized lubrication systems to control main feed lines 1 and 2. Starting from the lube pump, the main lines are alternately used as pressure (P) and return (R) lines.



## Differential pressure switch

The differential pressure switch is used to optimize the changeover from line 1 to line 2. It is used in dual-line systems with long lines and very low temperatures. It is installed upstream of the dual-line distributor farthest from the pump to ensure sufficient pressure to all dual-line distributors even under low temperature conditions and with long feed lines.



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 **CAUTION**

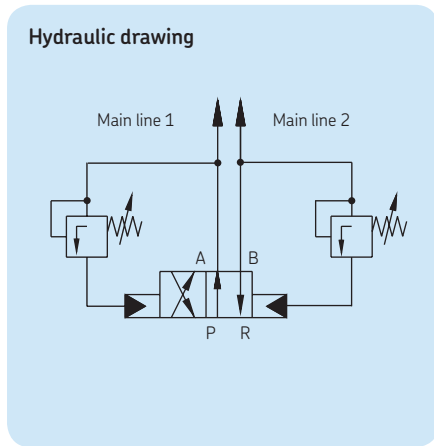
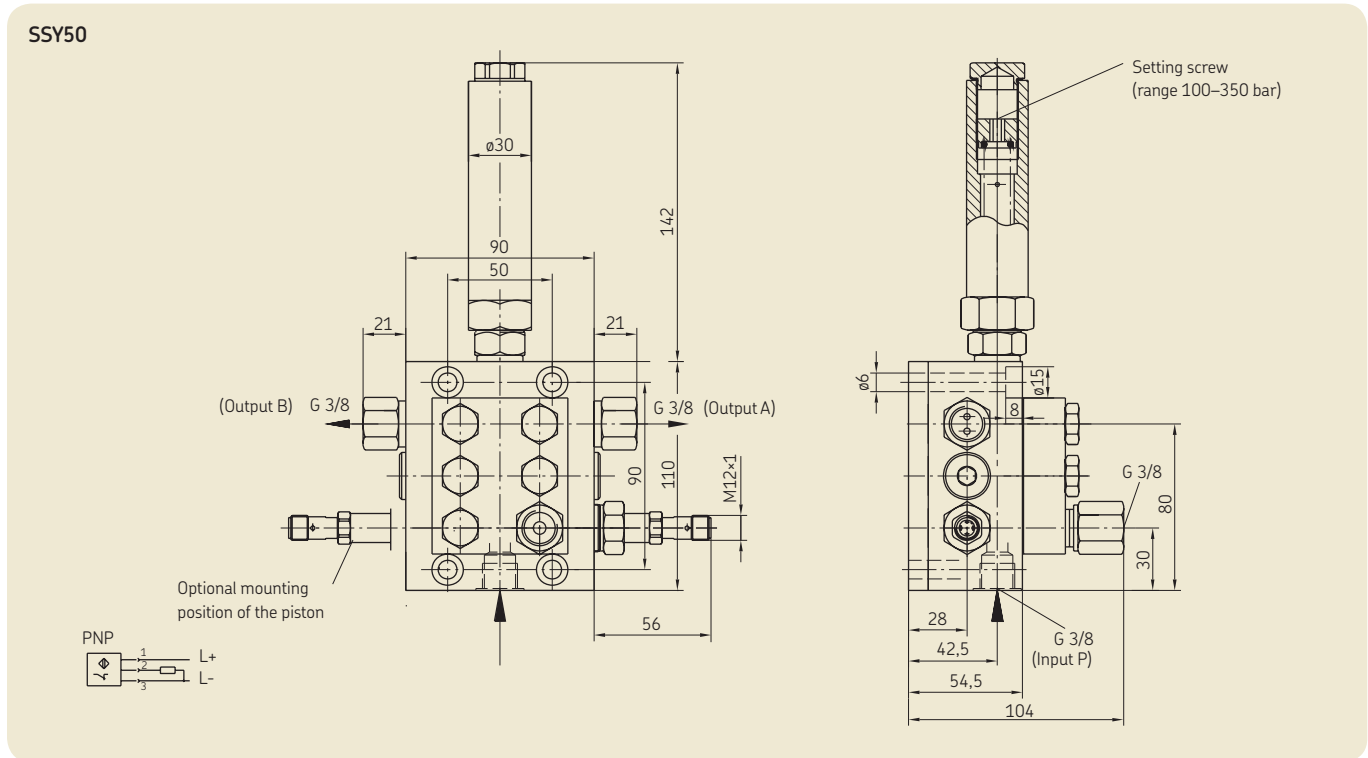
For all systems described in this brochure, see important product usage information on the back cover.

# Hydraulic change-over valve SSY50

Hydraulic change-over valves are used on SKF DuoFlex dual-line centralized lubrication systems, small or medium sized, with a small number of lube points. The change-over pressure is set to 350 bars with an integrated safety valve. Each time the set pressure is reached there is a change-over of main feed lines 1 and 2. During the first change-over after the start of the lube

pump main feed line 1 is changed from P to R. Likewise main feed line 2 is changed from from R to P. During the second change-over after the start of the lube pump main feed line 1 switches from R to P and main feed line 2 from P to R. The sequence continues in the same order while the lube pump continues running. The SSY50 hydraulic change-over valve is

installed close to the lube pump upstream of the first dual-line distributor. The position of the change-over valve can be monitored by a piston detector as an optional feature.



**Technical data SSY50**

Mounting position . . . any  
 Ambient temperature . . . . . -15 to +80 °C  
 Changeover pressure . . . . . 320 bar (factory setting)  
 Changeover . . . . . automatically when the set pressure is achieved  
 Medium . . . . . up to NLGI grade 3 with a walkpenetration > 220 x 0,1 mm and oils ISO VG with a viscosity > 250 mm<sup>2</sup>/s

**Technical data piston detector**

Function . . . . . NC  
 Operational voltage . . . . . 10-36 VDC  
 Ampacity . . . . . 100 mA  
 Switching status display . LED yellow  
 Protection . . . . . IP 65

**Ordering information**

SSY50/1 without piston detector . . . . . Order No. **24-1883-2538**  
 SSY50K1 with piston detector . . . . . Order No. **24-1883-2534**

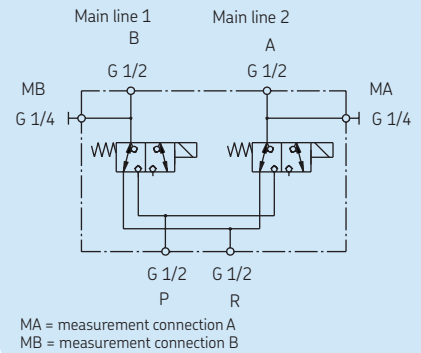
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# Electromagnetical change-over valve SSY203

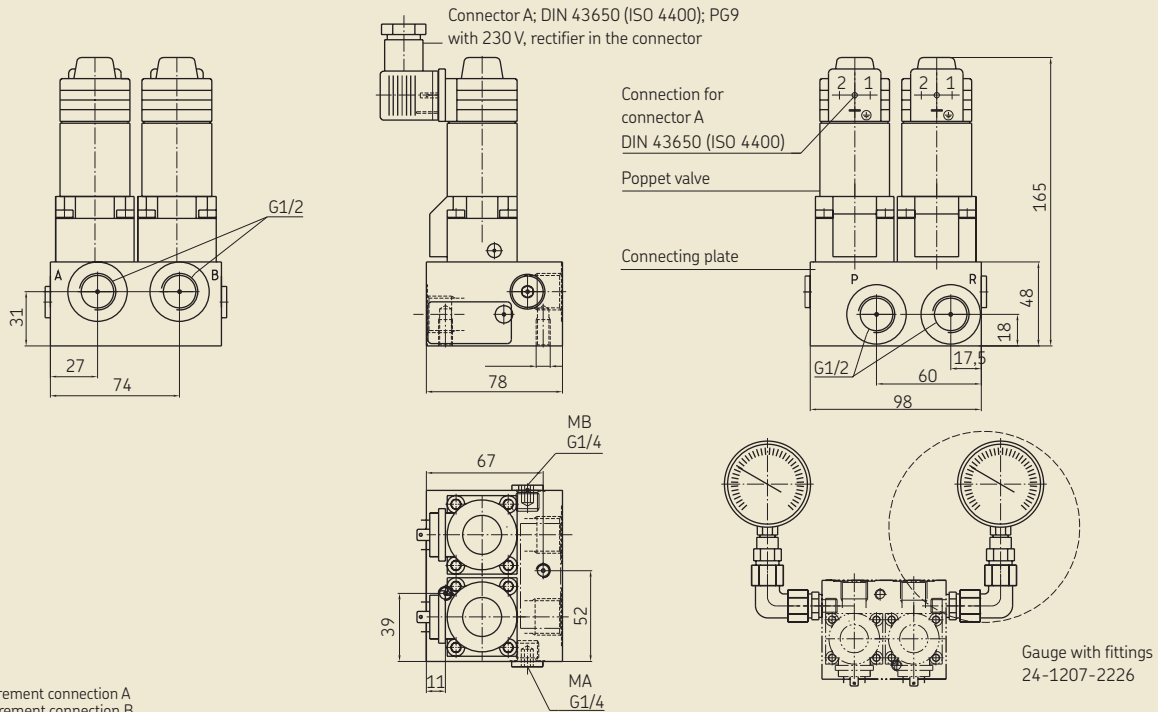
Electromagnetical change-over valves are used on SKF DuoFlex dual-line centralized lubrication systems, big sized, with a huge number of lube points and long feed lines and changing operating temperatures. A 3/2 way valve is allocated to each main line inside the electromagnetical change-over valve. Those 3/2 way valves relieve the two main lines during the lubrication breaks. When using the SSY203 there is a need to install a differential pressure switch into the system to keep it working properly.

The signal send by the differential pressure switch is needed by the electromagnetical change-over valve to let the two main lines become interchangeably connected with the pumping pressure. The electromagnetical change-over valve SSY203 is installed into the main line close to the lube pump upstream of the first dual-line distributor.

## Hydraulic drawing



## SSY203



MA = measurement connection A  
MB = measurement connection B

## Technical data

|                     |   |
|---------------------|---|
| Mounting position   | any   |
| Ambient temperature | -25 to +80 °C   |
| Operating pressure  | max. 400 bar  |
| Connecting thread   | G 1/2   |
| Voltage             | 24 V DC or 230 V AC<br>(further voltages on request)  |
| Frequency           | AC, 50/60 Hz  |
| Power               | 21,6 W  |
| Protection          | IP 54   |
| Medium              | up to NLGI grade 2 with a worked penetration<br>> 265 x 0,1 mm and oils ISO VG with a viscosity<br>> 20 mm <sup>2</sup> / s |

## Order information

|                          |                                  |
|--------------------------|----------------------------------|
| SSY203/24DC<br>(24 V)    | Order No.<br><b>24-1883-2343</b> |
| SSY203/230AC<br>(230 V)  | Order No.<br><b>24-1883-2344</b> |
| Gauge<br>(incl. fitting) | Order No.<br><b>24-1207-2226</b> |

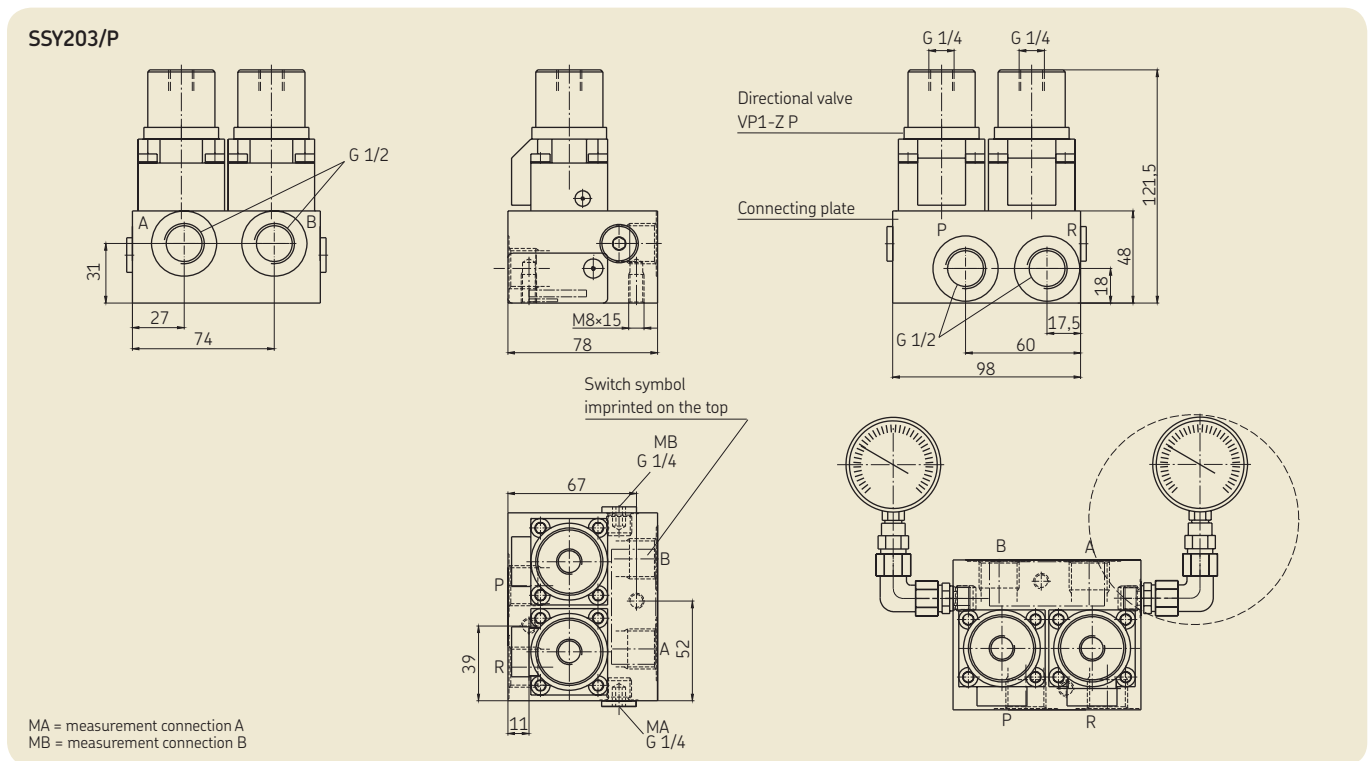
# Pneumatically change-over valve SSY203/P

The main criterion for using an SSY203/P changeover valve is its immunity to external influences such as dirt and water because the valve is actuated pneumatically and thus lacks electrical components. In the pneumatic changeover valve (SSY203/P), a pneumatically actuated 3/2 directional control valve is assigned to each main line (1 and 2). The directional control valves are used to simultaneously relieve both main lines during lubrication pauses.

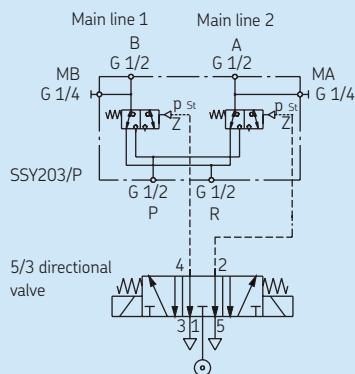
As on the SSY203, a differential pressure switch must be provided in the lubrication system for changeover.

The electrical switchgear transmits the changeover signal to an electromagnetically actuated pneumatic 5/3 directional control valve. This valve alternately actuates one of the two 3/2 directional control valves on the SSY203P changeover valve. This alternately establishes a connection between main line 1 (or main line 2) and the pump pressure outlet (P).

The valve which is not actuated remains connected to the relief line to the lubrication pump (R). The pneumatic changeover valve SSY203/P is installed close to the lubrication pump, before the first dual-line distributor. The upstream 5/3 directional control valve is installed at any suitable location.



## Hydraulic drawing



## Technical data

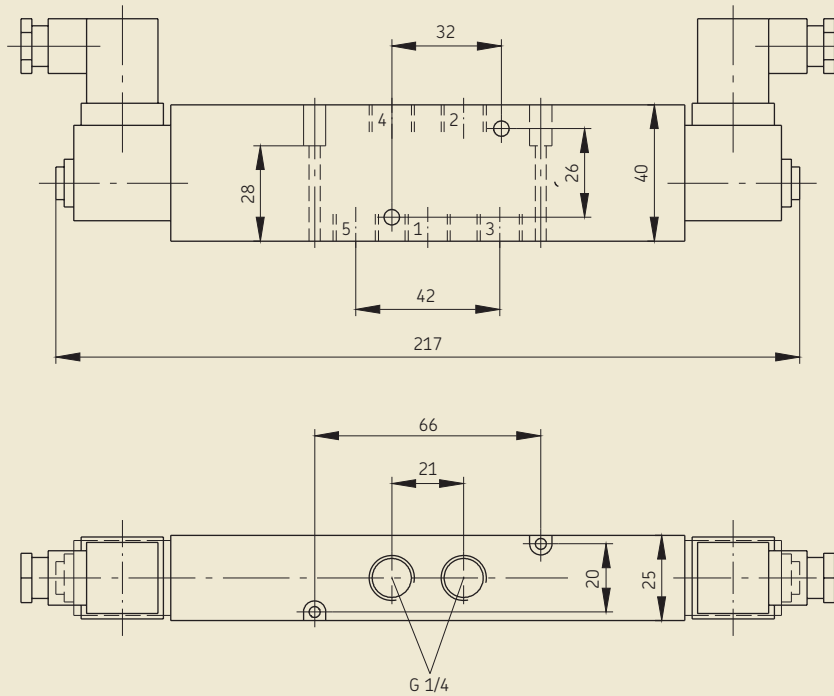
Mounting position . . . any  
Ambient temperature . . . . . -20 to +70 °C  
Operating pressure. max. 400 bar  
Control pressure . . . 4 to 15 bar  
Control medium . . . Compressed air, oiled filtered  
Control volume. . . . . 1 cm<sup>3</sup>  
Connecting thread . G 1/2  
Voltage . . . . . 24 V DC or 230 V AC  
Volume flow . . . . . 15 l/min  
Medium . . . . . up to NLGI grade 2 with a worked penetration > 265 x 0,1 mm and oils ISO VG with a viscosity > 20 mm<sup>2</sup>/s

## Order information

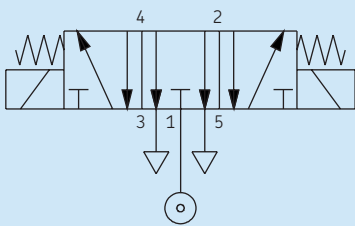
SSY203/P . . . . . Order No. **24-1883-2345**  
Gauge 0-600 bar (incl. fitting) . . . . . Order No. **24-1207-2226**

# Electropneumatically 5/3 directional valve for SSY203/P

24-1254-2591



## Pattern



## Technical Data

|                               |   |
|-------------------------------|---|
| Design .....                  | Spool valve, actuated indirectly        |
| Mounting position .....       | any                                     |
| Ambient temperature .....     | +10 to +50 °C                           |
| Operating pressure .....      | 3–8 bar                                 |
| Medium .....                  | Compressed air, lubricated and filtered |
| Connecting thread .....       | G 1/4                                   |
| Function .....                | NO                                      |
| Actuation /Rückstellung ..... | electromagnetic/twice/spring            |
| Precontrol .....              | internal                                |
| Exhaust .....                 | not collected                           |
| Protection .....              | IP 67                                   |

## Order information

5/3 directional valve  
nominal voltage 24V  
(with socket)

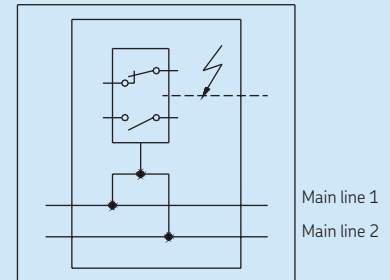
Order No.  
**24-1254-2591**

# Differential pressure switch DDS50/1

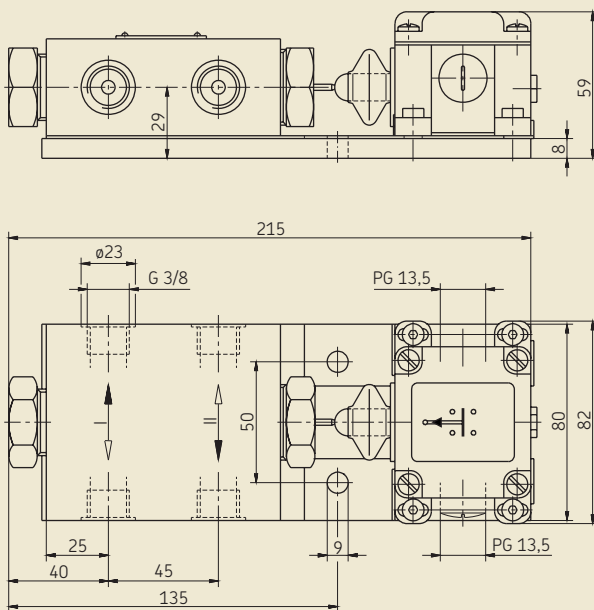
The differential pressure switch measures the difference in pressure between main feed lines 1 and 2. A signal is sent to the electrical control unit when a differential pressure of  $p = 50$  bar is reached. The design of the differential pressure switch makes it possible to detect the pressure build up in main feed line 1 or 2. A high degree of functional reliability is reached for dual-line systems thanks to the differential pressure of  $p = 50$  bar.

The differential pressure switch is installed upstream of the lubricant distributor that is the last to be reached by the lubricant pressure in the main feed lines. As a rule, that is the distributor farthest from the lubricant pump.

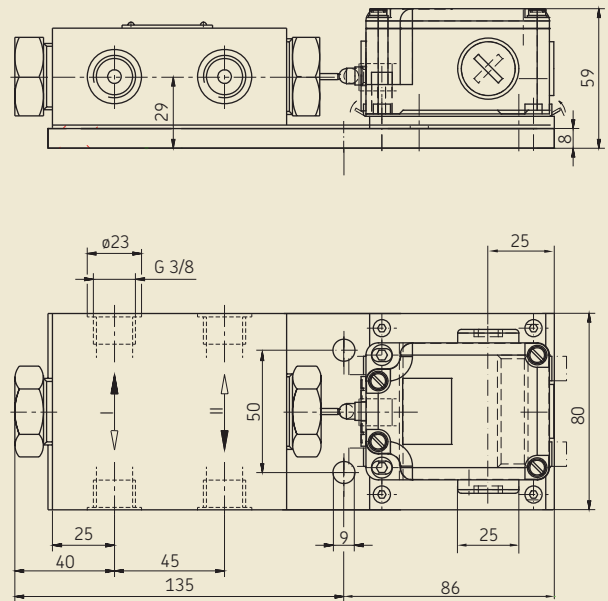
## Hydraulic drawing



### 24-2583-2498



### 24-2583-2563

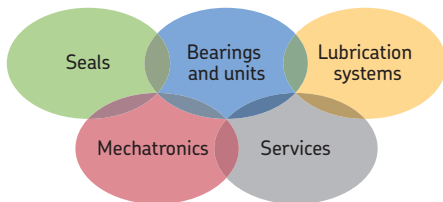


## Technical Data

|                                |                    |
|--------------------------------|--------------------|
| Mounting position              | any                |
| Ambient temperature            | -25 to +80 °C      |
| Operating pressure             | max. 400 bar       |
| Differential pressure          | 50 bar $\pm$ 3 bar |
| Rated insulation voltage $U_i$ | 400 VAC            |
| Nominal current                | 10 A               |
| Used contact                   | 2 closer           |
| Protection                     | IP 65              |
| Connection method              | clamps             |

## Order information

|                             |                                  |
|-----------------------------|----------------------------------|
| DDS50/1<br>( $U_i$ 400 VAC) | Order No.<br><b>24-2583-2498</b> |
| DDS50/1<br>( $U_i$ 500 VAC) | Order No.<br><b>24-2583-2563</b> |



### The Power of Knowledge Engineering

Drawing on five areas of competence and application-specific expertise amassed over more than 100 years, SKF brings innovative solutions to OEMs and production facilities in every major industry world-wide. These five competence areas include bearings and units, seals, lubrication systems, mechatronics (combining mechanics and electronics into intelligent systems), and a wide range of services, from 3-D computer modelling to advanced condition monitoring and reliability and asset management systems. A global presence provides SKF customers uniform quality standards and worldwide product availability.

#### Important information on product usage

All products from SKF may be used only for their intended purpose as described in this brochure and in any instructions. If operating instructions are supplied with the products, they must be read and followed.

Not all lubricants are suitable for use in centralized lubrication systems. SKF does offer an inspection service to test customer supplied lubricant to determine if it can be used in a centralized system. SKF lubrication systems or their components are not approved for use with gases, liquefied gases, pressurized gases in solution and fluids with a vapor pressure exceeding normal atmospheric pressure (1 013 mbar) by more than 0,5 bar at their maximum permissible temperature.

Hazardous materials of any kind, especially the materials classified as hazardous by European Community Directive EC 67/548/EEC, Article 2, Par. 2, may only be used to fill SKF centralized lubrication systems and components and delivered and/or distributed with the same after consulting with and receiving written approval from SKF.

#### Further brochures:

- 1-9201-EN *Transport of Lubricants in Centralized Lubrication Systems*
- 1-0103-EN *Fittings and accessories for Central Lubrication Systems and general use*
- 1-3033-EN *Grease Lubrication Pump FK*

### SKF Lubrication Systems Germany GmbH

Plant Hockenheim  
2. Industriestrasse 4  
68766 Hockenheim  
Germany

Tel. +49 (0)6205 27-0  
Fax +49 (0)6205 27-100

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