

# dertec<sup>®</sup>

Designed to Perform

Operating instructions  
Declaration of incorporation  
Declaration of conformity

**bkd**  
Speed Ball Variator



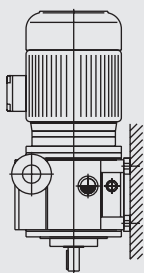
## Oil & Oil quantities

The continuously adjustable BKD variable speed ball drive is supplied with oil filling, ready for operation. Lubrication is achieved by immersing the balls in oil.

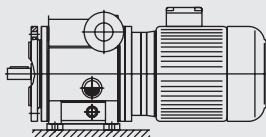
The oil must be checked regularly.

Position of the oil sight glass, depending on the mounting position (See figure):

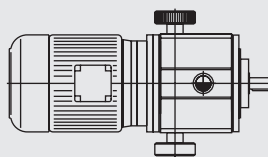
**V1, V5, V18**



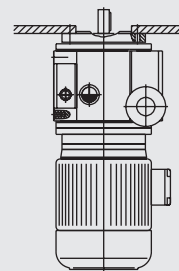
**B3, B5, B14**



**B6, B7**



**V3, V6, V19**



Variator	V1, V5, V18	B3, B5, B14	B6, B7	V3, V6, V19
<b>KR 1</b>	70 ml	70 ml	70 ml	70 ml
<b>KR 2</b>	225 ml	125 ml	150 ml	125 ml
<b>KR 3</b>	450 ml	275 ml	350 ml	275 ml
<b>KR 4</b>	1000 ml	550 ml	800 ml	500 ml

- Only the use of the following 2 synthetic traction fluid ensures full power transmission.

**Santotrac 50**

**Santotrac 332 FG H1 (Foodgrade)**

**Variotrac 32**

- The warranty requires this oil type to be used

- The oil should be changed after 5000 operating hours or at least once a year.

- The oil change must not be carried out during operation

- No other maintenance work is required.

The BKD variable speed ball drive can be operated reliably at ambient temperatures between -20°C and +40°C

The variable speed ball drive itself may reach temperatures of up to 90°C without ill effect.

Any reduction gears that may be installed have their own oil chambers.

The oil types specified by the respective manufacturers must be used.

The wiring diagram for the connection of motors is usually located in the terminal box.

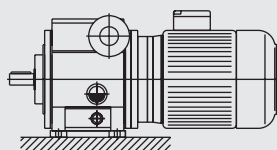
For the installation of additional electrical components, the wiring diagrams supplied must be followed.

In order to prevent damage to the variable speed ball drive, any accessories such as pulleys, toothed wheels, clutches etc. must be installed thoroughly.

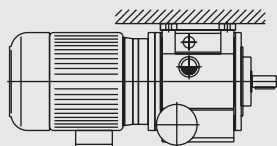
Assembly is made easier by heating the parts that are to be mounted.

Prior to commissioning check that any accessories are mounted in such a way that contact with the housing covers is avoided.

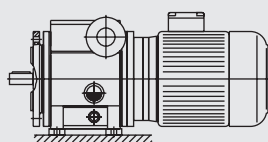
## Horizontal



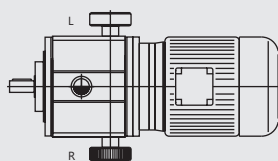
**B3**  
Frame mounted



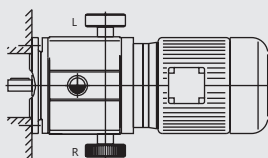
**B8**  
Ceiling mounted



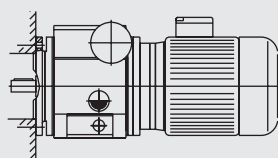
**B3 / B5**  
Frame mounted  
Additional Flange B5



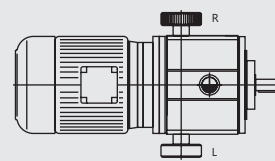
**B6**  
Wall mounted  
Output left



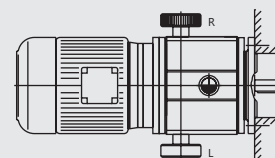
**B5A**  
Wall mounted  
Output Left  
Flange B5



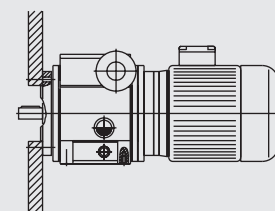
**B5**  
Wall mounted  
Output Left  
Flange B5



**B7**  
Wall mounted  
Output right

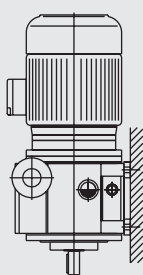


**B5B**  
Wall mounted  
Output right  
Flange B5

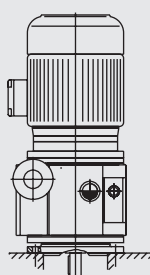


**B14**  
Wall mounted  
Flange B5

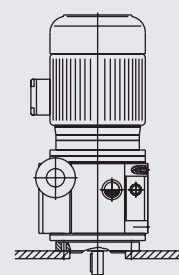
## Vertical



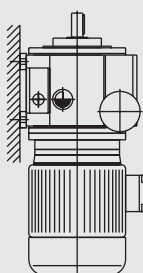
**V5**  
Wall mounted  
Output bottom



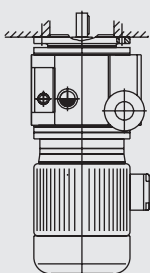
**V1**  
Wall mounted  
Output at bottom  
Flange B5



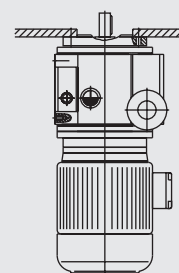
**V18**  
Wall mounted  
Output bottom  
Flange B14



**V6**  
Wall mounted  
Output at top

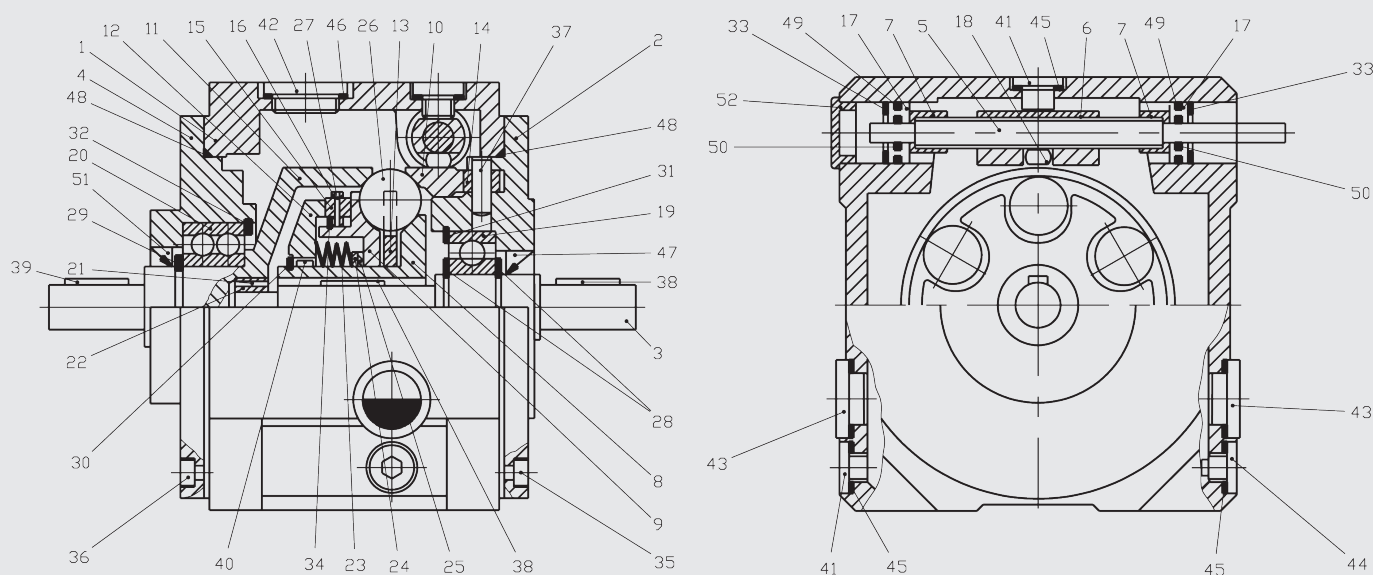


**V3**  
Wall mounted  
Output at top  
Flange B5



**V19**  
Wall mounted  
Output at top  
Flange B14

## Spare Parts



Nr.	Part	Nr.	Part	Nr.	Part
1	Housing	19	Deep groove ball bearing	37	Straight pin
2	Drive cover	20	Angular ball bearing	38	Key
3	Drive shaft	21	Needle sleeve	39	Key
4	Output cover	22	Inner ring	40	Key
5	Setting shaft	23	Cup springs	41	Screw plug
6	Slider	24	Supporting ring	42	Screw plug
7	End stop	25	Thrust washer	43	Oil sight glass
8	Drive ring	26	Balls	44	Magnetic screw
9	Control ring	27	Grooved pin	45	Seal
10	Adjustment ring	28	Circlip	46	Seal
11	Output ring	29	Circlip	47	Rotary shaft seal
12	Pressure disk	30	Circlip	48	O-ring
13	Spacer	31	Circlip	49	O-ring
14	Roller	32	Circlip	50	O-ring
15	Drum roller	33	Circlip	51	Rotary shaft seal
16	Roller cage	34	Circlip	52	Plug
17	Bearing	35	Screw plug magnetic		
18	Pin	36	Screw plug		

## Declaration of Conformity

According to EU directive 2014/34/EU Appendix VIII

DERTEC declares in sole responsibility that the

BKD continuously adjustable variable-speed ball drive

as a stand alone product or build together with a:

- Atex Wormgearbox
- Atex Bevelgearbox
- Atex Hypoid bevelgearbox
- Atex Parallel shaft gearbox
- Atex Coaxial gearbox
- Atex Electric motor

with the following specification : ATEX II 2G/2D Eex-d IIC T4 135°C

meet the requirements set forth in the explosion-proof 'Machine Directive 2014/34/EU '  
and the categories 2G and 2D indicated in the Directive.

Applicable standards:

EN 13463-1:2009

EN 13463-5:2011

EN 13463-8:2003

EN 60529:1991/A1:2000/A2:2013

Our Declaration of Incorporation belongs to this Declaration Of Conformity in the context of the  
Machine Guideline 2006/42/EC appendix IIB for the variable speed gearboxes of the series BKD Kugelrollgetriebe

The technical documents according to Appendix VIII of Directive of 2014/34/EU were submitted to the named organisation:

Physikalisch - Technische Bundesanstalt  
Bundesallee 100, D-38116 Braunschweig,  
Kenn-Nummer 03 ATEX D010 Zugestellt.

Voorhout, 20-04-2016  
(Place and date of issue)

Dertec  
F.F. Noest



**Declaration of Incorporation**

*In accordance with EN ISO 17050 -1 : 20*

DERTEC declares in sole responsibility that the

BKD continuously adjustable variable-speed ball drive  
*as a stand alone product or build together with a:*

- Atex Wormgearbox
- Atex Bevelgearbox
- Atex Hypoid bevelgearbox
- Atex Parallel shaft gearbox
- Atex Coaxial gearbox
- Atex Electric motor

with the following specification : ATEX II 2G/2D Eex-d IIC T4 135°C

meet the requirements ' Machine Directive 2006/42/EC '

The technical documents according to appendix VII (B) have been created.

The machinery is incomplete and must not be put into service until the machinery into which it is to be incorporated has been declared in conformity with the provisions of the directive.

Voorhout, 20-04-2016  
(Place and date of issue)

Dertec  
F.F. Noest



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