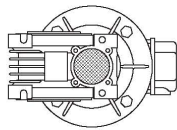
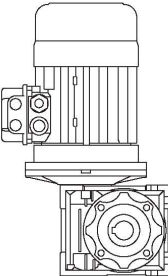
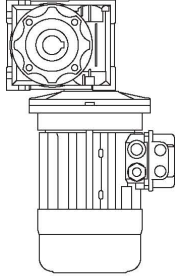
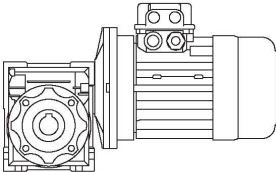
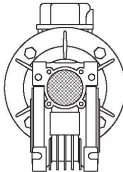
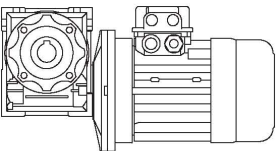
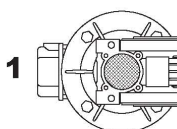
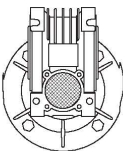
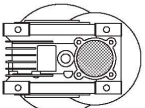
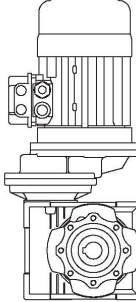
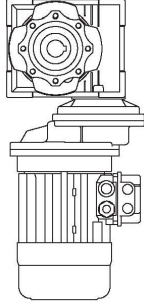
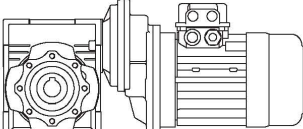
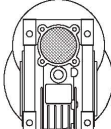
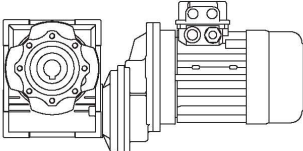
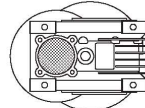
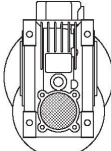


**INSTALLATION POSITIONS DIAGRAM  
TNRV.. /OR TRV..**

TNRV...U - B3		B6	V5	V6
<b>1</b>				
				
B8		B7		
<b>3</b>		<b>1</b>		
				
				

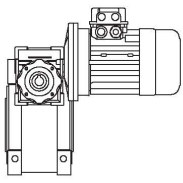
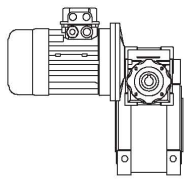
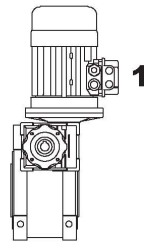
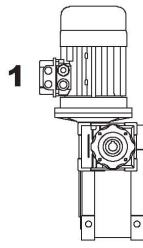
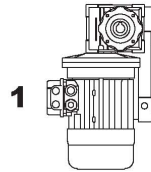
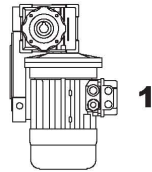
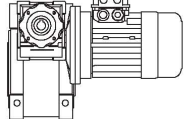
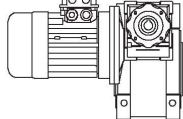
**PC.. - TNRV..**

TNRV...U - B3		B6	V5	V6
<b>1</b>				
				
B8		B7		
<b>3</b>		<b>1</b>		
				
				

“U” version is related to sizes from **025** to **075** and TRV030-063. For these sizes it is not necessary to specify mounting position.

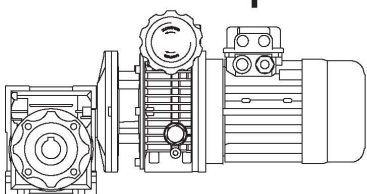
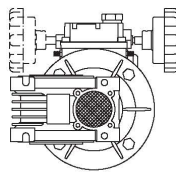
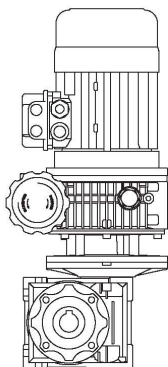
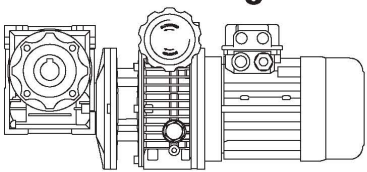
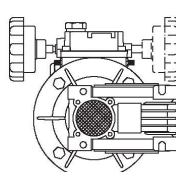
- For vertical positions, please refer to the table on page 75.
- Unless specified otherwise, the standard positions are **B3**.
- For positions not envisaged, it is necessary to call our Technical Service.

**TNRV.. - TNRV.. / TRV.. - TNRV..**

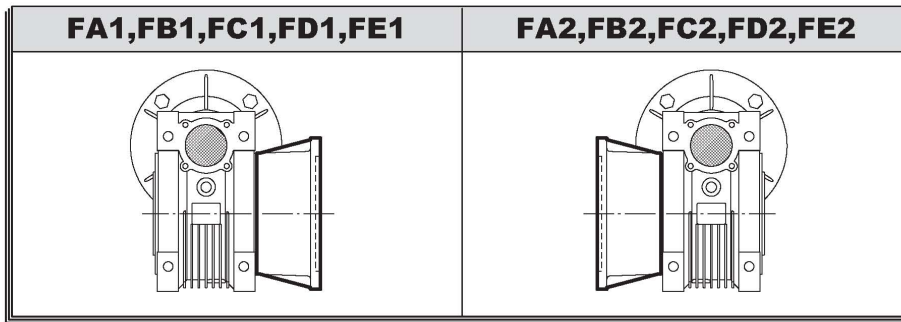
AS1	AS2	VS1	VS2
<b>1</b> 	<b>1</b> 	<b>1</b> 	<b>1</b> 
PS1	PS2	BS1	BS2
<b>1</b> 	<b>1</b> 	<b>3</b> 	<b>3</b> 

The position of the 1st reducer with respect to the 2nd gear reducer depends on the versions. Unless specified at the time of order, combination groups are supplied in version BS2. The specified mounting position refers to the 1st gear reducer, see page 73 for the possible mounting positions.

**UDL.. - TNRV..**

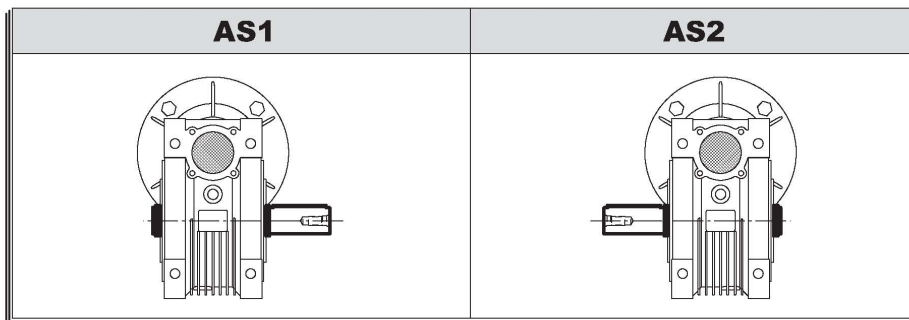
TNRV...U - B3	B6	V5
<b>1</b> 	<b>4</b> 	<b>3</b> 
B8	B7	
<b>3</b> 	<b>2</b> 	

*POSITION DIAGRAM FOR OUTPUT FLANGE*

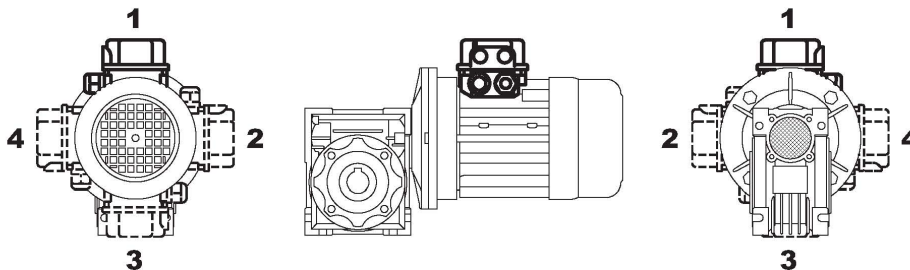


Unless specified otherwise, the reduction unit is supplied with the flange in pos. F.1 referred to position B3

*POSITION DIAGRAM FOR SINGLE OUTPUT SHAFT*

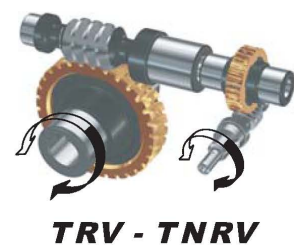


*POSITION OF TERMINAL BOX*



In the case of specific requirements, when ordering, specify the position of the terminal box as shown in the diagram.

*DIRECTION OF ROTATION*



## INSTALLATION

To install the reduction unit it is necessary to note the following recommendations:

1. Check the correct direction of rotation of the reduction unit output shaft before fitting the unit to the machine.
2. Before mount with the prime mover and device, please check the reducer's every axial diameter, aperture, key and key slot, to be sure their dimensions are not deviation, and avoid assembling too tight or too loose, unless it will influence the reducer's performance.
3. The mounting on the machine must be stable to avoid any vibration.
4. Whenever possible, protect the reduction unit against solar radiation and bad weather.
5. In the case of particularly lengthy periods of storage (4-6 months), if the oil seal is not immersed in the lubricant inside the unit, it is recommended to change it since the rubber could stick to the shaft or may even have lost the elasticity it needs to function properly.
6. Painting must definitely not go over rubber parts and the holes on the breather plugs, if any.
7. When connect with hollow or solid shaft, please grease the joint to avoid lock or oxidation.
8. Check the correct level of the lubricant through the indicator, if there is one.
9. Starting must take place gradually, without immediately applying the maximum load.
10. Supporting unit is required when using various of reducer matched with motor directly and the weight of motor is a little bigger than common.
11. Ensure the motor cools correctly by assuring good passage of air from the fan side.
12. In the case of ambient temperatures  $< -5^{\circ}\text{C}$  or  $> +40^{\circ}\text{C}$  call the Technical Service.

## CRITICAL APPLICATIONS

The performance given in the catalogue correspond to mounting position B3 or similar, when the first stage is not entirely immersed in oil. For other mounting positions and/or particular input speeds, refer to the tables that highlight different critical situations for each size of reduction unit. It is also necessary to take due consideration of and carefully assess the following applications by calling our Technical Service:

1. As a speed increasing.
2. Applications with especially high inertia.
3. Use as a lifting winch.
4. Use in services that could be hazardous for people if the reduction unit fails.
5. Applications with high dynamic strain on the case of the reduction unit.
6. In places with  $T^{\circ}$  under  $-5^{\circ}\text{C}$  or over  $40^{\circ}\text{C}$ .
7. Use in chemically aggressive environments.
8. Use in a salty environment.
9. Use in radioactive environments.
10. Use in environments pressures other than atmospheric pressure.
11. Mounting positions not envisaged in the catalogue.

Avoid applications where even partial immersion of the reduction unit is required.

The maximum torque that the gear reducer can support must not exceed two times the nominal torque ( $f_s = 1$ ) stated in the performance tables. Intended for momentary overloads due to starting at full load, braking, shocks or other causes, particularly those that are dynamic.

TNRV	025	030	040	050	063	075	090	110	130
<b>V5:</b> $1500 < n_1 < 3000$	—	—	—	—	—	B	B	B	B
$n_1 > 3000$	B	B	B	B	B	A	A	A	A
<b>V6</b>	B	B	B	B	B	B	B	B	B

**A** Application not recommended

**B** Check the application and/or call our technical service



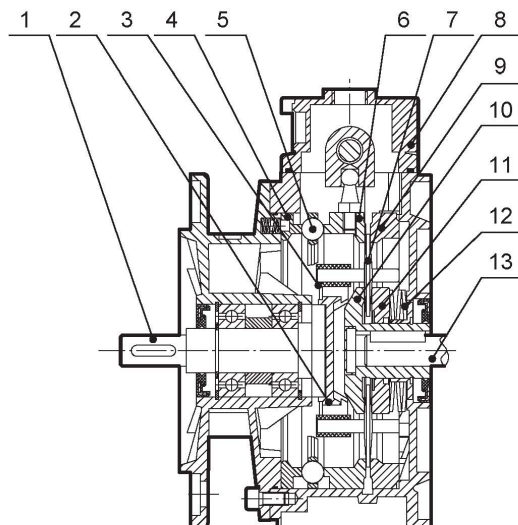
**BRIEF INTRODUCTION TO STEPLESS SPEED VARIATOR**

The design of UDL series stepless speed variator compromises the advanced technology both at home and abroad. The products include the following main characteristics:

1. High speed-regulating precision: up to 0.5-1 rotation.
2. Large speed –changing range: The speed ratio ranges from 1:1.4 to 1:7 freely.
3. High in strength and long in service life.
4. Convenient to regulate the speed.
5. Continuous in running, front-to-back in running direction, smooth in driving, stable in performance and low in noise.
6. Full in sealing and suitable for any environment.
7. Compact in structure and small in volume.
8. Made of high-quality aluminium alloy diecast into forming, good-looking in appearance, light in weight and it never gets rusty.
9. Good in adaptation: UDL series stepless speed variators can be combined with all kinds of speed reducers, as to achieve low stepless speed-changing.

UDL series stepless speed variators are widely used for foodstuffs, ceramics, packing, chemicals, pharmacy, plastics, paper-making, machine-tools, communications, and all kinds of automatic lines, pipelines and assembly lines which need speed-regulation, It is a good companion for your production.

**STRUCTURE**



1. Output shaft
2. Planet carrier
3. Friction bearing - planet disk
4. Cam ring
5. Ball ring
6. Adjustable annulus ring
7. Planet disk
8. Control cover
9. Fixed annulus ring
10. Fixed sun race
11. Adustable sun race
12. Belleville spring
13. Motor shaft