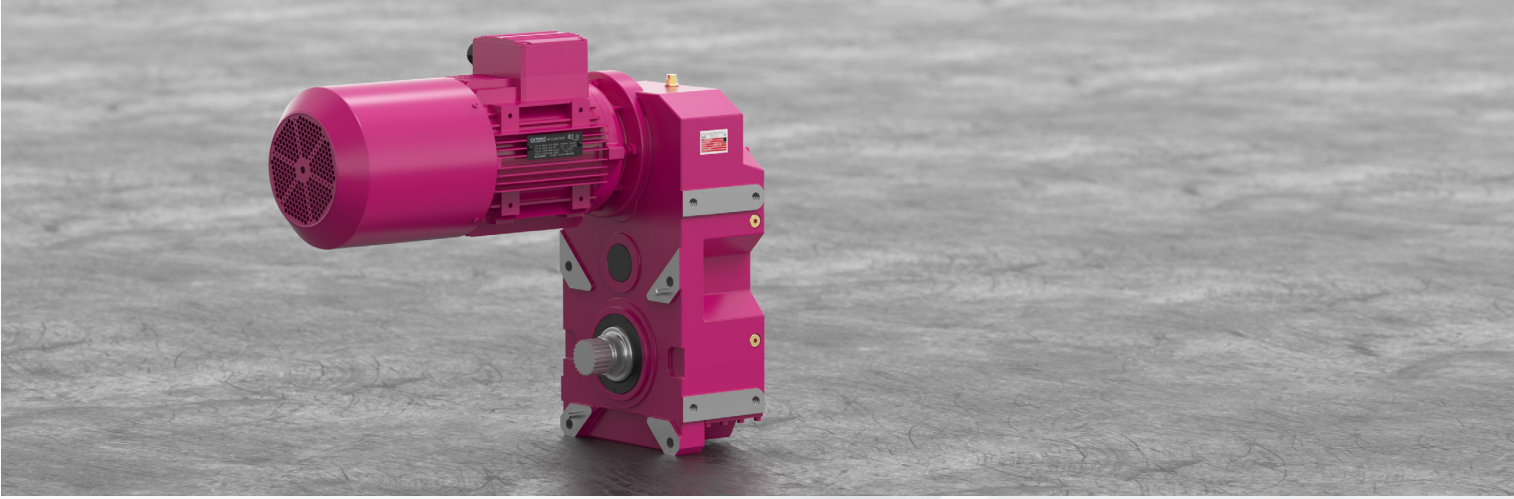




OPERATING INSTRUCTIONS

V Series

Hoist Drum Drive Units





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1 - How to Use This Manual

Take attention to the following safety and warning signs for proper understanding and quick reference.



Electrical Hazard; Can cause severe or fatal injuries.



Mechanical Hazard; Can cause severe or fatal injuries.



Likely to be Hazardous; Can cause minor or fatal injuries



Damage Risk; Can damage the gearbox or environment



Important Information



Important information about explosion protection

The operating instructions contain important information to ensure ;

- Trouble-free operation

- Fulfilment of any rights to claim under guarantee

The operating instruction must be kept close to the gearbox and must be available in case it is needed.

This operating instruction is written for VN/VT series gear units and is applicable only for these series. If any different type of gear unit is used please ask YILMAZ REDUKTOR. For special application and modified gear units ask YILMAZ REDUKTOR for validity.

The VN/VT Series garboxes are with standard IEC B5/B14 connection flange and without motor. The electric motor which will be connected to the gear unit must also be in conformity with the ATEX (94/9/EC) standards.

All the external parts which will be assembled to the gear unit must conform ATEX (94/9/EC). The product this declaration refers to 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 relevant European Directives.

If the gear unit is not operated as informed on this manual the gear unit is no longer ATEX conforming and YILMAZ REDUKTOR does not take any responsibility.



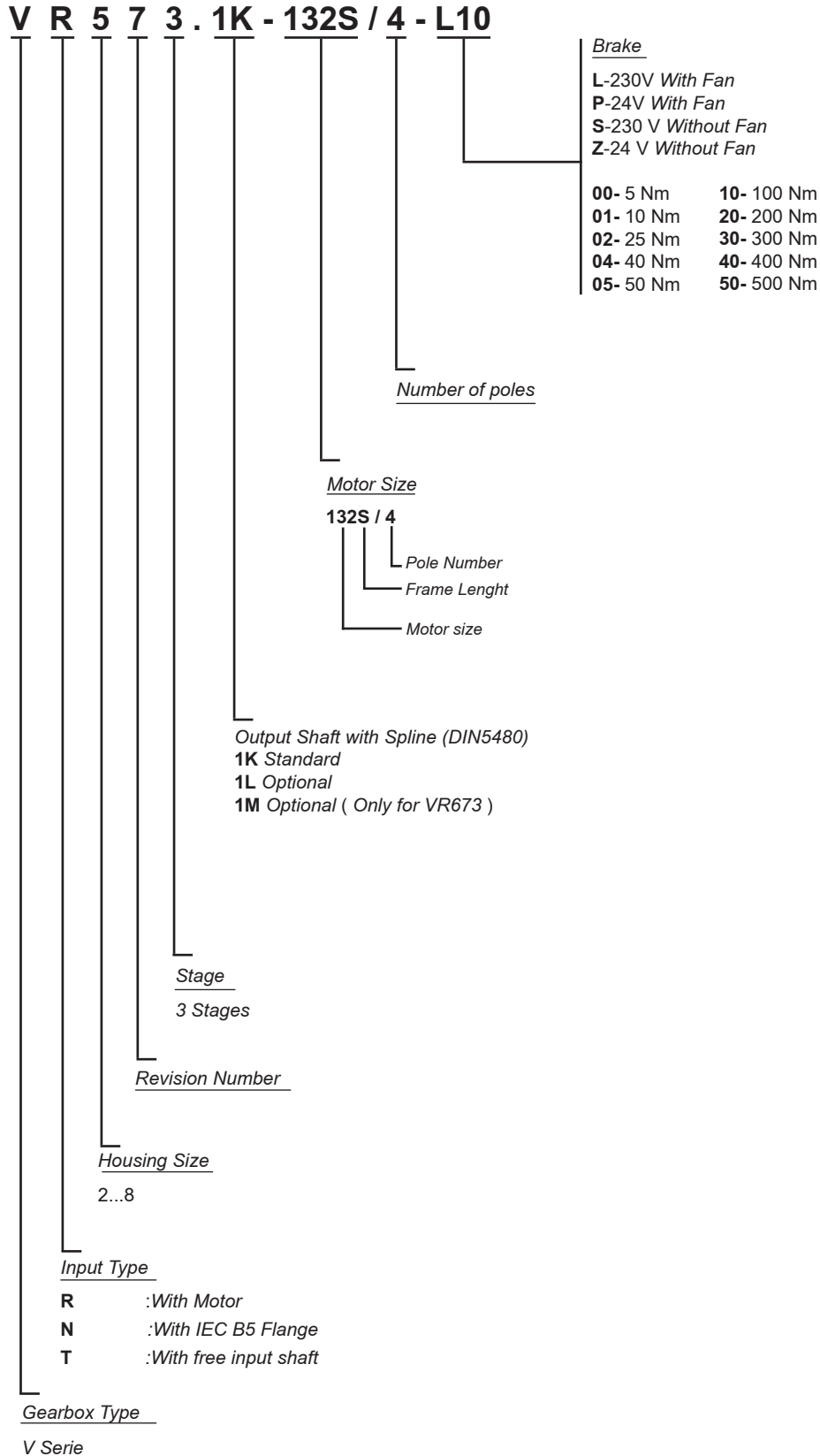
2 - Unit Designation

2.1- Detailed Unit Designation



Detailed V series gear units designation for ordering

(This Designation is different from the short nameplate designation)



2.2- Nameplate, unit designation



Nameplate unit designation is a short abbreviation from the detailed designation

A sample name plate for V Series according to 94/9/EC

 YILMAZ REDÜKTÖR A.Ş. ATATÜRK Mah. Lozan Cad. No:17 P.K.34522 Esenyurt-İstanbul- TÜRKİYE	
Type: VN473.. / 2GD	CE
S/N. : 100348988	IP65
P : 4 kW	M ₂ : 1600 Nm.
n ₁ : 1400 rpm.	n ₂ : 23 rpm.
F _{R2} : 42500 N	F _{R1} : NA N
F _{A2} : 37500 N	F _{A1} : NA N
Oil : MINERAL VG320	Qty: 5 lt.
M.Pos.: M5	T _a : -20/+40 °C
 II 2GD Ex h tb IIB/IIIB T4/T120° Gb Db	

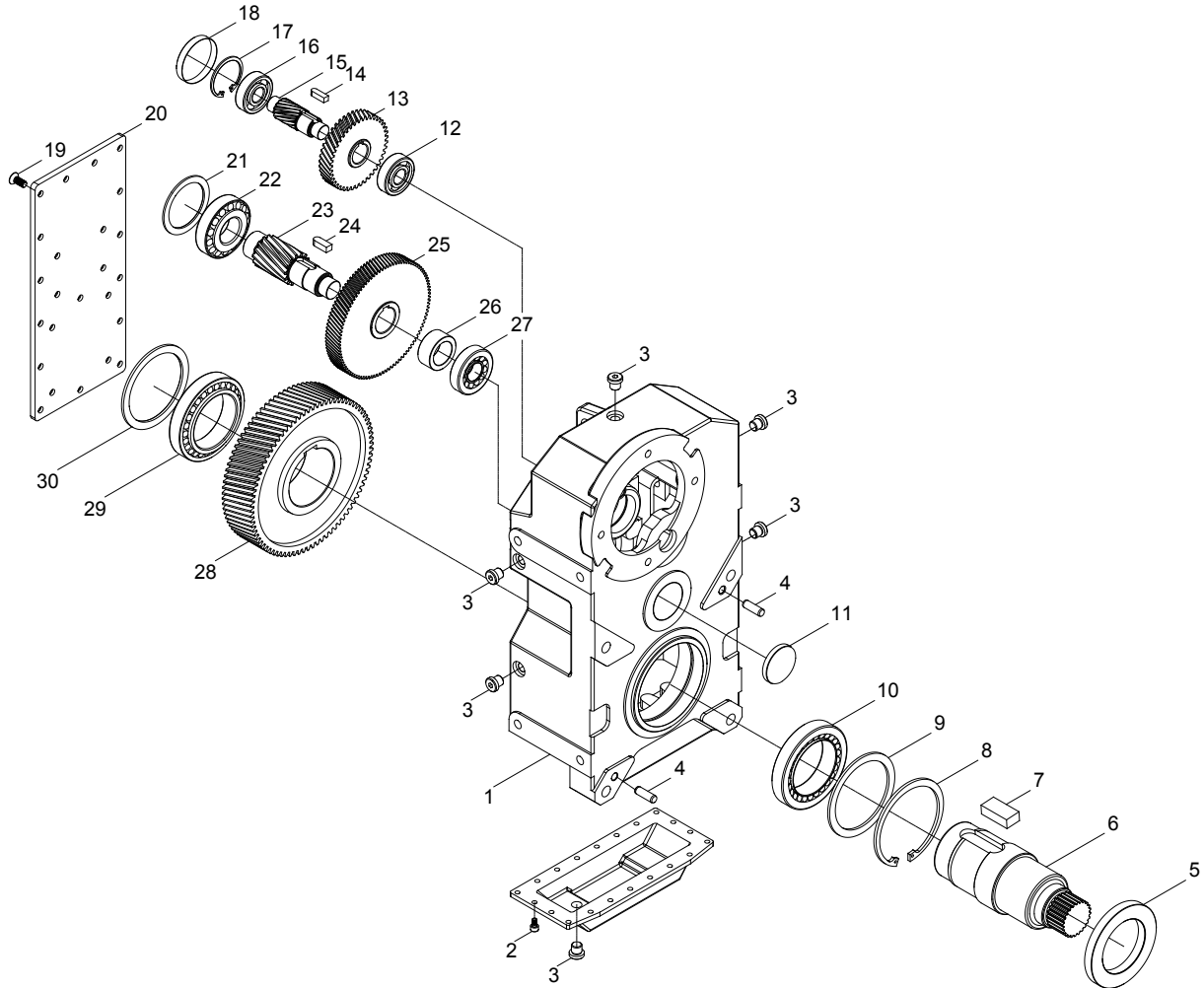
Abbreviations:

Type. : Type of gearbox
S/N: Serial Number of gear unit ;
IP..: Enclosure
P : Max. Allowed Power
M2 : Output torque
n1 : Input speed
n2 : Output speed
FR2 : Max. allowed radial load at output shaft
FR1 : Max. allowed radial load at input shaft
FA2 : Max. allowed axial load at output shaft
FA1 : Max. allowed axial load at input shaft
Oil : Filled oil inside the gear unit
Qty. : Oil quantity
M.pos.: Mounting Position.
Ta : Ambient Temp.

Category of Gear Unit (in acc. to 94/9/EC)	Intended use in Zones (in acc. of 1999/92/EC)
2GD	1; 21; 2; 22
3GD	2; 22

3. Standard Type Gearbox Part Lists

3.1- V.... Types



Standard V... type basic part diagram. Parts may differ for special applications.

Standard Part List

1- Housing	10- Bearing	19- Bolt	28- Gear
2- Bolt	11- Cover	20- Side Cover	29- Bearing
3- Plug	12- Bearing	21- Spacer	30- Spacer
4- Screw Bolt	13- Gear	22- Bearing	
5- Seal	14- Key	23- Shaft Gear	
6- Output Shaft	15- Shaft Gear	24- Key	
7- Key	16- Bearing	25- Gear	
8- Washer	17- Washer	26- Tube	
9- Spacer	18- Tube	27- Bearing	



4- Things to Check Before the Gear Unit or Geared Motor is Installed

4.1- Safety notes for use in potentially explosive atmosphere



Explosive gas mixtures or concentration of dust can lead to severe or fatal injuries in conjunction with hot or moving parts of the gear unit / geared motor.

Before you install the gearbox you have to be sure that the gearbox is arrived with the all necessary equipment and without damage. Things to take into consideration before you start to install the unit ;

- You have received the correct operation manual of your product.
- The gearbox and all it's parts are transported without damage.
- The gearbox is stored correctly according the instructions in this manual.
- The nameplate is clearly visible and all data can be read.
- All the regulations and requirements are according to the currently valid national / regional regulations.
- The gearbox is used according it's intended use.

Intended use of Gearbox



The gearboxes covered by this manual can only be used in ATEX zone 2G, 2D, 3G, 3D and ignition class IIA / IIB.

The gear units are intended for industrial systems and may only be used in accordance the information provided in this manual and the nameplate of the gearbox. They comply with the applicable standards and regulations and meet the requirements of the directive 94/9/EC. The gearbox is started up, maintained and operated according this manual. The gearbox is incorporated with 94/9/EC confirming parts / machines.



A motor connected to the gear unit is only allowed to be operated in the frequency entries so that the data provided on nameplate of the gear unit is not exceeded and is accordance with the nameplate. The input speed range will be provided on the nameplate if YILMAZ REDUKTOR is informed that the gear unit will be used with frequency inverter. If not informed the nameplate will have a single fixed input speed and only this input speed is allowed. The electric motor and frequency inverter must be in accordance with 94/9/EC.



If the gear units input is used with variable speed gear unit, this must be informed to YILMAZ REDUKTOR before ordering and on the nameplate the allowed maximum and minimum input speeds (speed range) will be provided. If not mentioned during ordering the gear units input speed will be a fixed single speed and only this speed is allowed.



If the gear unit will be driven by belt / coupling / chain drive etc. the gear unit is only allowed to be used according the nameplate entries. Different speed, higher motor power, higher radial / axial loads etc. than nameplate is not allowed.



The ambient conditions must be accordance with the nameplate and no aggressive media must attack the paint and seals.



The gearbox maintenance (oil change / check) must be done according this manual.



4.2- Transportation

When the gearbox arrive, first check for any damage. If some damage observed, immediately contact the transport company and inform about damage. Contact YILMAZ for the damage and do not start installing the gear unit until it is agreed that the damage has no affect of operation.



Use the supplied eyebolts or lifting holes for lifting up the gear unit. The eyebolts are capable to carry the weight of gearboxes only. Do not hang additional loads.

4.3- Storage

If the geared unit or geared motor will be stored up to 3 years refer to the following instructions ;

With Packing ;

- Use corrosion protection oil for the output shaft and connection surfaces like flange surface or foot assembling surface. Seal the unit in a plastic wrap and pack it in container. A moisture indicator should be placed around the container to observe the moisture. Relative atmospheric humidity should not exceed 50%. The container should be kept under roof which protects from snow and rain. Under this condition the gear unit can be stored up to 3 years with regular check.

Without Packing ;

- Use protection oil for the output shaft and connection surfaces like flange surface or foot assembling surface. If no packing is used and the gearbox is stored without packing, the ambient temperature should be between 5 to 60 Celsius degrees. The gearbox must be kept under enclosed roof with constant temperature and constant humidity not exceeding 50%. The storage should be free of dust and dirt and ventilated with filter. If the gearbox is stored without packing it is recommended not to store more than 2 years and regularly checking is recommended during this time.

If stored in open protect against insect damage.



5- Installing the Gear Unit

5.1- Before you start ;

- Observe the gear unit for damages of storage or transportation. If there is any damage please contact YILMAZ REDUKTOR.
- Be sure that you have all the necessary equipment for installing like ; spanners, torque wrench, shims and distance rings, fixing devices for input and output elements, lubricant, bolt adhesive / locktide etc.



5.2- Check Nameplate of the Gear Unit ;

- ATEX conforming gear units have a nameplate indicating the “” sign shown on the left side and the following information ;
- Equipment group
- Ex category
- Ex zone
- Temperature class
- Maximum surface temperature

If you can not see this sign and values, your gearbox is not intended for use on potentially explosive atmosphere. If some of the data can not be read because of some reason, please contact YILMAZ REDUKTOR.

5.3- Check the Ambient Conditions and Temperature ;

Have measures been taken to ensure that no potentially explosive atmosphere, oils, acids, gases, vapors or radiated interference are present when the gear unit is being installed. The ambient temperature must be in accordance with the oil tables given on the manual. If it is different contact YILMAZ REDUKTOR for special solutions.



The ambient air temperature must not exceed 40 degrees celcius as mentioned on the nameplate. The cooling air surrounding the gear unit must below 40 degrees and the gear unit must not subject to heating from external sources. The gear unit surface must be kept clean and sufficiently ventilated.



Total thickness of all paintings and coatings on gear unit must be smaller then 2 mm. Please contact us before making additional paintings or coatings on gear unit.

5.4- Check Fitting Elements and the Splined Shaft Dimensions to Fit;

All external elements that will be fitted to the gear unit must be ATEX conforming.

The splined shafts dimensions are shown on next page. Use correct tolerances to fit external elements. Observe the assembly instructions provided in this manual.

Operating Instructions

V Series

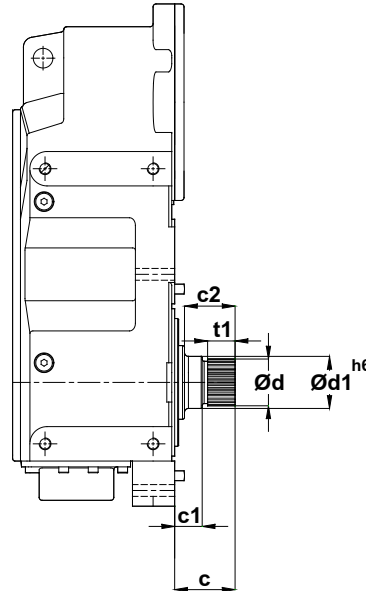
Installing



Power transmission elements must be balanced after fitting and must not give rise to any permissible radial or axial forces.



Observe the nameplate for maximum allowed radial and axial load. The external radial and axial load must not exceed the provided values on the nameplate.



Sizes	Output Shafts with Spline Dimensions				
	c	c1 c2	d	d1	t1
VN273.1K	50	17,5 44,5	W35x2x30x16x8f DIN5480	ø40 (h6)	28
VN373.1K	55	22 48	W45x2x30x21x8f DIN5480	ø50 (h6)	28
VN373.1L	50	22 43	W40x2x30x18x8f DIN5480	ø43 (h6)	23
VN473.1K	60.5	27 51,5	W50x2x30x24x8f DIN5480	ø55 (h6)	28
VN473.1L	48	16 42	W45x2x30x21x8f DIN5480	ø48 (h6)	27
VN573.1K	69	28 61	W70x3x30x22x8f DIN5480	ø75 (h6)	35
VN573.1L	56	16 51	W65x2x30x31x8f DIN5480	ø68 (h6)	35
VN673.1K	84	32 74	W95x3x30x30x8f DIN5480	ø100 (h6)	45
VN673.1L	67	17 60	W75x2x30x36x8f DIN5480	ø78 (h6)	44
VN673.1M	75	21 68	W90x2x30x44x8f DIN5480	ø92 (h6)	45
VN773.1K	110	35 97	W110x4x30x26x8f DIN5480	ø115 (h6)	67
VN773.1L	97	21 89	W110x2x30x54x8f DIN5480	ø113 (h6)	67
VN873.1K	124	41 107	W120x4x30x28x8f DIN5480	ø130 (h6)	75



5.5- Check the Voltage Supply ;

ATEX conforming gear units are supplied by YILMAZ without motor. The motor that will be fitted must have ATEX certificate and the instruction manual of the electric motor provider must be observed. Observe the name plate of the electric motor and the instructions of the supplier. Use experienced electric technician. The gearbox and the motor must be grounded to prevent potential differences of earth and gearbox / motor.



Using wrong connection or voltage can damage the electric motor or environment. The electric connection must be done by experienced electric technician.



The gearbox and the motor must be grounded to prevent potential difference of earth and gearbox / motor after installation before starting up.

5.6- Check the Mounting Position ;

The mounting position must be in accordance with the mounting position mentioned on the name plate. If different please contact YILMAZ REDUKTOR for possibilities of using in a different mounting position then indicated on the name plate. If you don't inform YILMAZ REDUKTOR, the ATEX conformity will be canceled and YILMAZ doesn't take any responsibility.



Do not mix synthetic oils with mineral oils which can cause serious damage on the gear unit.

5.7- Usage of Breather Plug ;

Breather plugs are supplied as a standard part for ATEX conforming gear units. The breather plug is attached to the gear unit and must be changed with the most top plug according to the mounting position. Take out the plug over the gear box and replace it with the supplied breather plug after assembling to its place and before start-up.



The breather plugs are opened at 0.2 bar pressure.



After opening the plugs use Loctite when locking them again.



All plug points are not machined. Only plugs according mounting position is machined. If no mounting position is mentioned by ordering the standard M1 position plugs are machined.





5.8- Check the oil level ;

On the mounting position tables the oil level plug is shown. Please refer to those tables and be sure that the oil level is correct according the mounting position by screwing half way out the level plug and see if oil comes out from that plug. If oil comes out tighten the plug again. If no oil comes out take out the filling plug and add oil until oil comes out from the level plug and tighten both plugs after finish. Be sure you are using the correct oil mentioned on the oil tables on this manual.



After checking the oil level of gear unit tighten the screws very carefully to prevent oil leakage.



Do not mix synthetic oils with mineral which can cause serious damage on the gear unit.

5.9- Check shaft ends and mounting faces;

Before you start to installing be sure that all the connection elements are free of oil and dust. The output shaft may be protected by anti-corrosion oil. Please remove this using available solvents on your market. By using this do not touch sealing lips or painting of the housing.

5.10- Cover abrasive ambient;

If the gear unit will be placed on a abrasive ambient be sure that the output seals are covered so that no abrasive material, chemicals or water touches the seals. Any pressure coming from outside over the seals can cause that the out staying substances to enter the gearbox and cause serious damage to the gear unit. If pressure or abrasive material can not be prevented from coming over the sealing, contact YILMAZ for solutions.



Abrasive material, chemicals, water, positive or negative pressure exceeding 0,2 bar can affect or damage the sealing lip or output shaft. Inside entering substances from the seals can cause serious damage to the gear unit.



To avoid temperature rising in case of dust cover on the housing of the gearbox, the housing have to be cleaned regularly.

5.11- Check accessibility to filling, breather and drain plugs;

The filling, breather and drain plugs must be freely accessible for further checking and service.



6- Mechanical Installation

The mounting plate must be rigid enough not allowing torsions, flat enough to prevent strains by tightening the bolts and stable enough not allowing vibrations. By using chain drives this becomes much more important because of the polygon effect on chain drives. According to your connection elements the maximal permitted radial and axial load of the gear unit must be in accordance with your application. Check the product catalogue for permitted radial loads and calculation.



If the output or input shaft is overloaded by radial or axial loads it can cause serious damage to the gear unit.

Secure the gear unit using 8.8 or higher quality bolts.



All bolts are locked by use of locktite adhesives or gear-shims on the gearbox. By assembling the gear unit locktides adhesives or gear-shims must be used to prevent loosening of bolts.



Cover all the turning parts from human entering or touching. Turning parts can cause severe or fatal injuries.

For different kind of basic installations refer to the following illustrations.



Only ATEX-approved input and output elements are allowed to be used, assuming the elements are subject to Directive 94/9/EC

6.1- Installing gear units in category II2G/D-II3G/D

Explosion-proof gear units comply with the design requirements for unit group II, category 2G,2D,3D,3G. These units are intended for use in zones 1 and 21.



The gear units in category II2D must be used in ambient temperature between -20 C to +40 C only. If different ambient conditions this must be informed before order and the name plate must be in accordance with the ambient conditions.



The temperature class depends on the speed, type and mounting position of the gearbox and is indicated on the name plate. Temperature classes from T4 to T6 are provided by YILMAZ REDUKTOR.



The surface temperature of the gearbox must not exceed the provided max. surface temperature on the name plate. After all installations finished and the gearbox is started up according this manual let the gear unit run 4 hours at full load and check the surface temperature and the ambient temperature. Check the following:

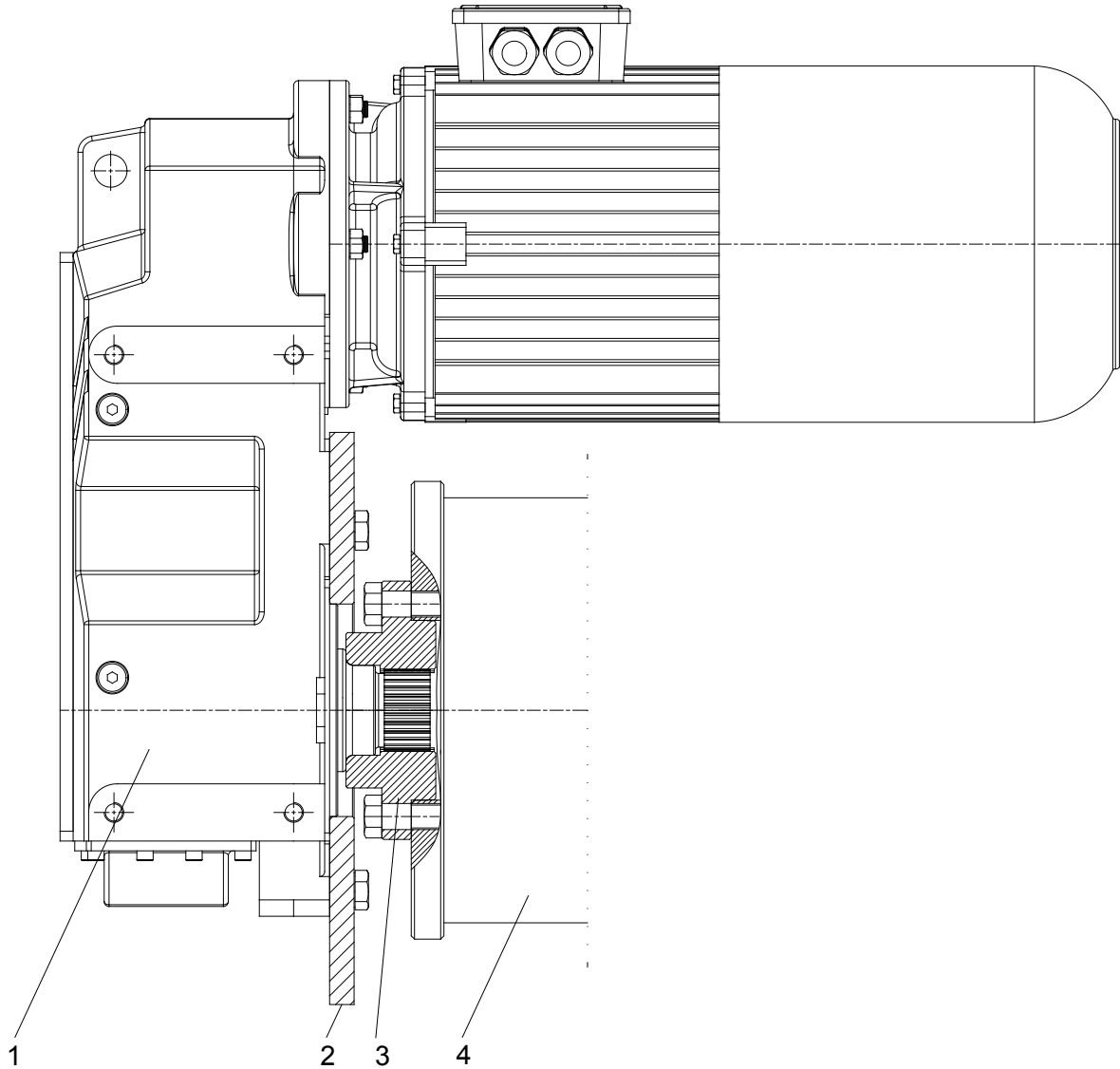
$(40-T_a)+T_w < T_{max. \text{ of nameplate}}$ (T_a : Ambient Temp., T_w : Surface Temp)



If the result is higher than T_{max} , immediately stop the system and contact YILMAZ REDUKTOR.

6.2- Installing Drum Connection Flange

Assembly drawing of the connection flange is below.

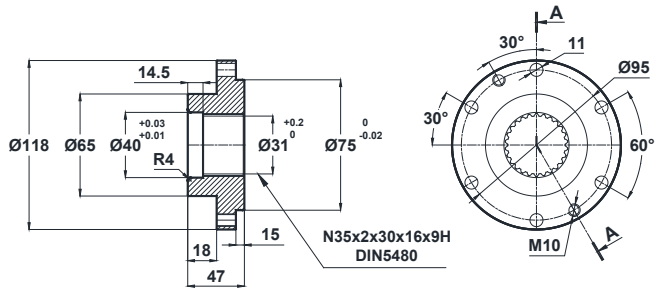


- 1 - V Series Gearbox
- 2 - Connection Plate
- 3 - Drum Connection Flange
- 4 - Drum

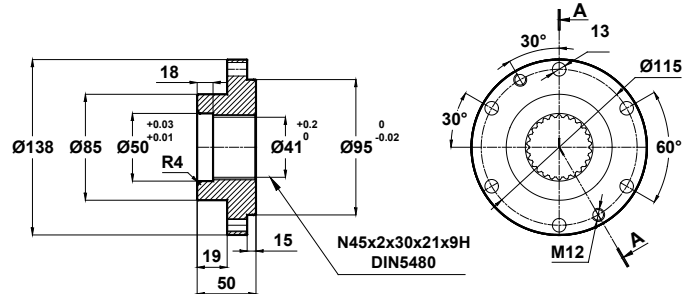


6.3- Drum Connection Flanges Dimensions for Each Size

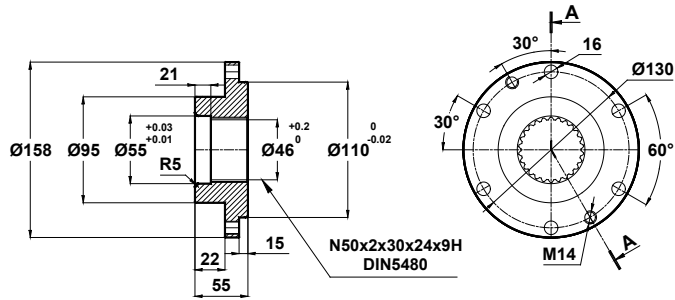
V273



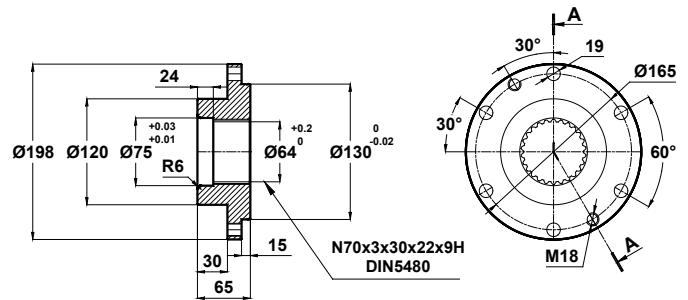
V373



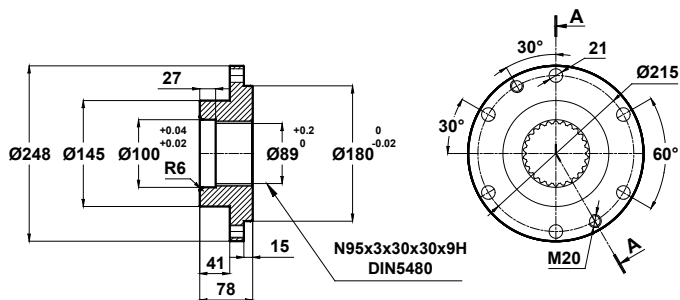
V473



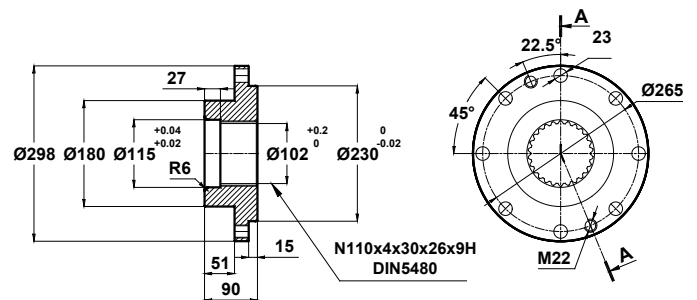
V573



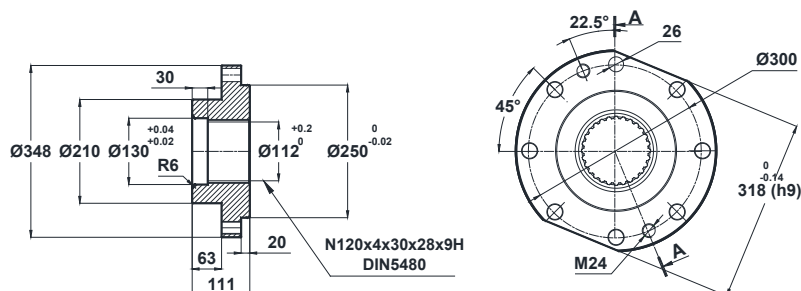
V673



V773



V873

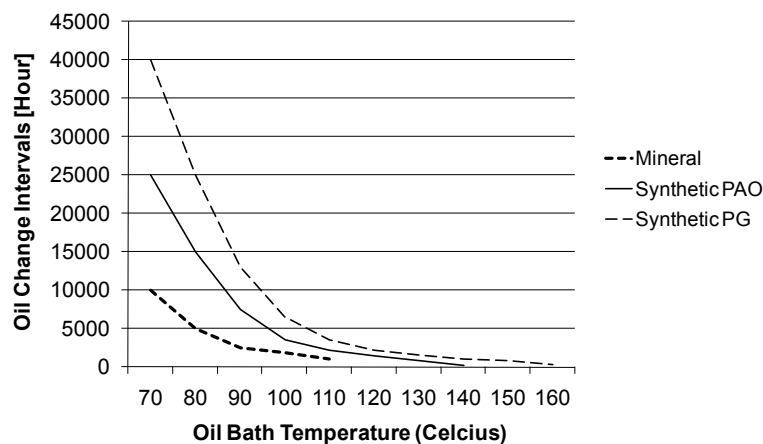




7- Maintenance and Inspections

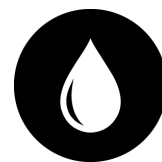
Under normal ambient and working conditions the gear unit should be checked according the following intervals. (For definition of normal working conditions refer to the product catalogue : "Selecting Gearbox" section);

Item to Check / Replace	Every 3000 Working Hours or Every 6 Months	Every 4000 Working Hours	Every 10000 Working Hours or Every 3 Years	Every 25000 Working Hours
Check for Oil Leakage	x			
Check for Oil Level	x			
Check for Oil Leakage from Seals	x			
Check Bearing's Noise		x (Change if Necessary)		
Change Mineral Oil			x (See Below for Details)	
Change Synthetic - PAO Oil				x (See Below for Details)
Change Sealing				x
Change Bearing Grease				x
Change Bearings				x
Check for Noise Changes				x



For normal ambient conditions 70 degrees celsius oil bath temp. should be taken as reference

* For our V series gearboxes mineral oil is used unless it is differently ordered. For oil type and quantities refer to the following tables.



8- Lubrication

8.1- Oil Types

Lubricant	DIN 51517-3	Ambient Temp. [°C]	ISO VG	Aral	Beyond Petroleum	Castrol	Klüber Lubrication	Mobil	Shell	Total
		Dip Lubrication								
Mineral Oil	CLP	0 ... +50	680	Degol BG 680	Energol GR-XP 680	Alpha SP 680	Klüberoil GEM 1-680 N	Mobilgear XMP 680	Omala S2 GX 680	Carter EP 680
		-5 ... +45	460	Degol BG 460	Energol GR-XP 460	Alpha SP 460	Klüberoil GEM 1-460 N	Mobilgear XMP 460	Omala S2 GX 460	Carter EP 460
		-10 ... +40	320	Degol BG 320	Energol GR-XP 320	Alpha SP 320	Klüberoil GEM 1-320 N	Mobilgear XMP 320	Omala S2 GX 320	Carter EP 320
		-15 ... +30	220	Degol BG 220	Energol GR-XP 220	Alpha SP 220	Klüberoil GEM 1-220 N	Mobilgear XMP 220	Omala S2 GX 220	Carter EP 220
		-20 ... +20	150	Degol BG 150	Energol GR-XP 150	Alpha SP 150	Klüberoil GEM 1-150 N	Mobilgear XMP 150	Omala S2 GX 150	Carter EP 150
		-25... +10	100	Degol BG 100	Energol GR-XP 100	Alpha SP 100	Klüberoil GEM 1-100 N	Mobilgear XMP 100	Omala S2 GX 100	Carter EP 100
Synthetic Oil	CLP PG	-10 ... +60	680	Degol GS 680	Energysyn SG-XP 680	–	Klübersynth GH 6 -680	Mobil Glygoyle 680	Omala S4 WE 680	Carter SY 680
		-20 ... +50	460	Degol GS 460	Energysyn SG-XP 460	Alphasyn PG 460	Klübersynth GH 6 -460	Mobil Glygoyle 460	Omala S4 WE 460	Carter SY 460
		-25 ... +40	320	Degol GS 320	Energysyn SG-XP 320	Alphasyn PG 320	Klübersynth GH 6 -320	Mobil Glygoyle 320	Omala S4 WE 320	Carter SY 320
		-30 ... +30	220	Degol GS 220	Energysyn SG-XP 220	Alphasyn PG 220	Klübersynth GH 6 -220	Mobil Glygoyle 30	Omala S4 WE 220	Carter SY 220
		-35 ... +20	150	Degol GS 150	Energysyn SG-XP 150	Alphasyn PG 150	Klübersynth GH 6 -150	Mobil Glygoyle 22	Omala S4 WE 150	Carter SY 150
		-40 ... +10	100	–	–	–	Klübersynth GH 6 -100	Mobil Glygoyle 100	–	–
	CLP HC	-10 ... +60	680	–	–	–	Klübersynth GEM 4-680 N	Mobil SHC Gear 680	Omala S4 GXV 680	Carter SH 680
		-20 ... +50	460	Degol PAS 460	Enersyn EP-XF 460	Alphasyn T 460	Klübersynth GEM 4-460 N	Mobil SHC Gear 460	Omala S4 GXV 460	Carter SH 460
		-30 ... +40	320	Degol PAS 320	Enersyn EP-XF 320	Alphasyn T 320	Klübersynth GEM 4-320 N	Mobil SHC Gear 320	Omala S4 GXV 320	Carter SH 320
		-40 ... +40	220	Degol PAS 220	Enersyn EP-XF 220	Alphasyn T 220	Klübersynth GEM 4-220 N	Mobil SHC Gear 220	Omala S4 GXV 220	Carter SH 220
		-40 ... +40	150	Degol PAS 150	Enersyn EP-XF 150	Alphasyn T 150	Klübersynth GEM 4-150 N	–	Omala S4 GXV 150	Carter SH 150
		-40 ... +40	100	–	–	–	Klübersynth GEM 4-100 N	–	–	–
Food Grade Oil	CLP NSF H1	-30 ... +25	220	–	–	Optileb GT 220	Klüberoil 4 UH1-220 N	Mobil SHC Cibus 220	–	Nevastane SL 220
Biodegradable Oil	CLP E	-25 ... +40	320	–	–	Tribol BioTop 1418-320	Klübersynth GEM 2-320	–	–	Carter Bio 320

	Product Code	Working Temp. [°C]	NLGI Grade	Base Oil	Colour
Mineral Grease	Mobil XHP 223	-20 ... +140	NLGI 3	ISO VG220	Blue
Synthetic Grease	Mobil SHC Grease 460 WT	-30 ... +150	NLGI 1.5	ISO VG460	Red
	Mobilith SHC 100	-40 ... +150	NLGI 2	ISO VG100	
Food Grade Grease NSF H1	Mobil SHC Polyrex 222	-30 ... +170	NLGI 2	ISO VG220	White
	Castrol Optileb™ GR 823-2	-30 ... +120	NLGI 2	ISO VG192	
Liquid Grease (Mineral)	Shell Gadus S2 V 220 00	-20 ... +100	NLGI 00	ISO VG220	Brown



8.2- Changing the Oil

Refer to the nameplate to find out the correct oil type filled inside the gearbox.



- Do not mix synthetic oils with mineral oils which will cause serious damage to the gear unit. The oil change must be done by using the filling, draining and level plugs according the mounting position illustrated at oil plugs tables.



- Extended, intensive contact with oils can lead to skin irritations. Avoid extended contact with oil, and clean oil off skin immediately.



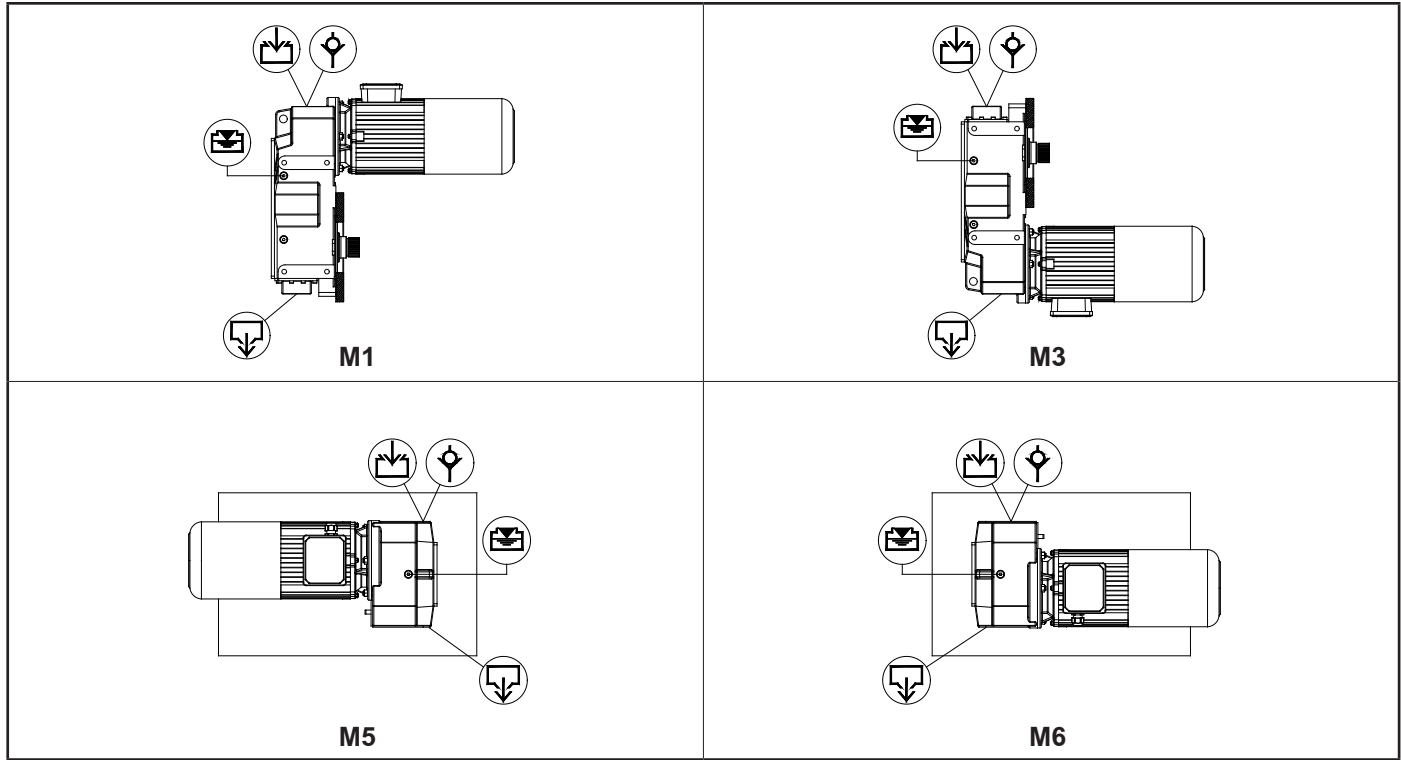
- Hot oil can cause scalding. When changing oil, protect yourself against contacting hot oil, use protective gloves.

8.3- Oil Quantities

Type	V Series Oil Quantities (lt)			
	M1	M3	M5	M6
V273	1,8	2,2	1,45	1,4
V373	3,3	4,0	2,6	2,5
V473	4,5	6,9	4,3	4,1
V573	9,7	12,5	9,2	9,0
V673	16,3	21	16	15,8
V773	30	18	21	20,5
V873	49,5	30	35	34



8.4- Oil Plugs



Symbols :  :Oil filling

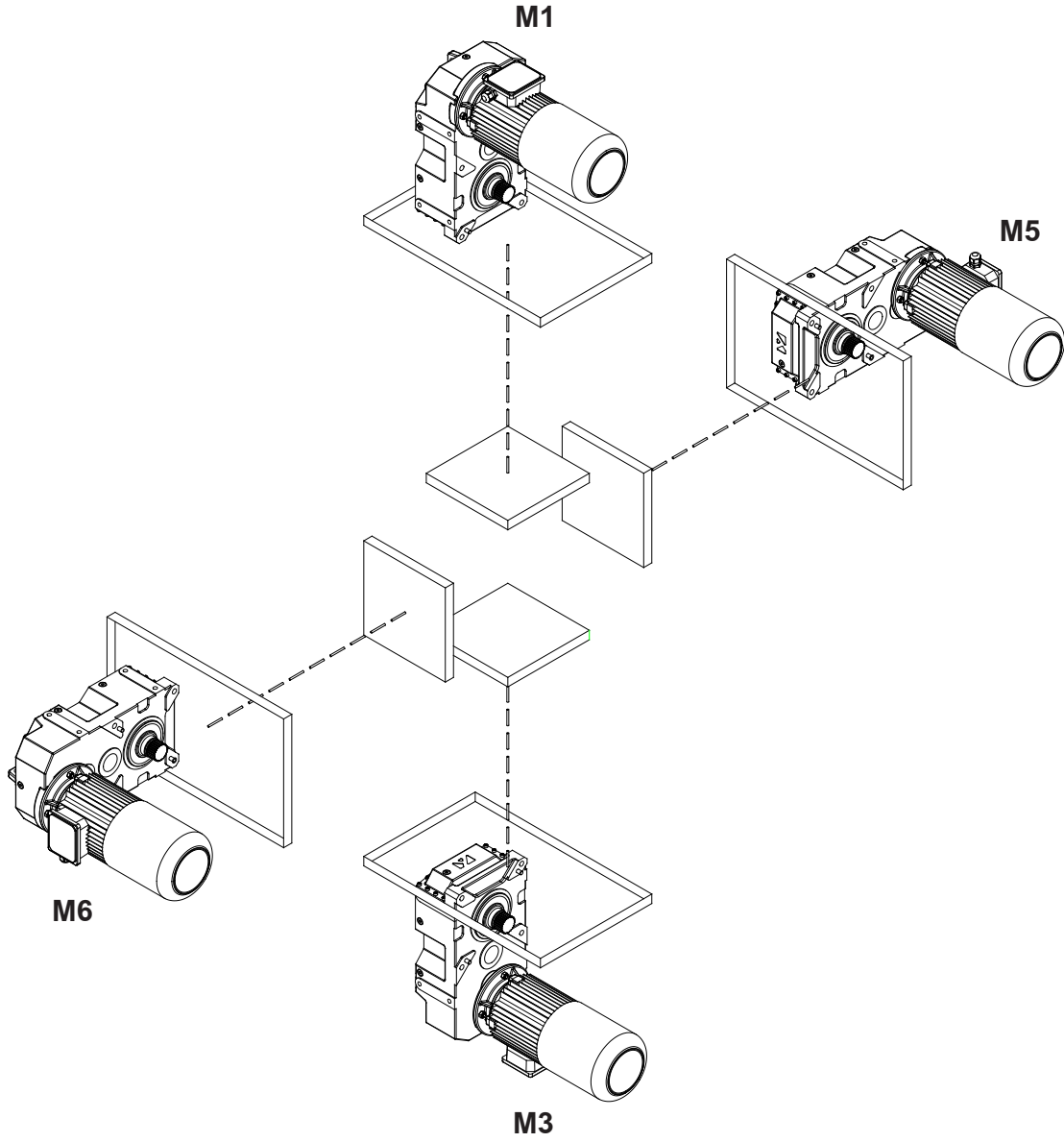
 :Drain plug

 :Oil level

 :Vent Plug



8.5- Mounting Positions





Troubleshooting Guide



9- Troubleshooting Guide



All the operations below must be done by authorized and skilled mechanician/electrician. Inform YILMAZ REDUKTOR before making any change to the gearbox. Only oil change is allowed to change without information. Do not make anything if you are not sure what you are doing and contact YILMAZ. Any change or operation done without the information of YILMAZ REDUKTOR is in your own risk and responsibility and YILMAZ REDUKTOR does not take any responsibility.

ID	Problem	Observation	Remedy
001	Gearbox Does Not Start Up	You hear no noise and shaft is not turning. You are not using any driver or frequency inverter.	Please Check the voltage supply and frequency of your electric connection. They must be in accordance with the nameplate of the motor. Observe motor manufacturers start up manual. Still does not work go to ID 100
002	Gearbox Does Not Start Up	You hear no noise and shaft is not turning. You are using frequency inverter or driver.	Please observe the frequency inverter/driver manual. Check the motor by supplying direct voltage to see if the problem is on your driver/frequency inverter. Still does not work go to ID 001.
003	Gearbox Does Not Start Up	You hear some noise but both motor shaft and gearbox shaft is not turning. You are not using any driver /frequency inverter or braked motor.	Please Check the voltage supply and frequency of your electric connection. They must be in accordance with the nameplate of the motor. Observe motor manufacturers start up manual. Still same problem, the load may be too high for the chosen motor. Loosen the gearbox from the load/torque. If it works than the starting torque is insufficient and higher motor power is needed. For mono phase motors, check the starting up condensator and running condensator as well. If nothing helps go to ID 100
004	Gearbox Does Not Start Up	You hear some noise but both motor shaft and gearbox shaft is not turning. You are using driver or frequency inverter.	Please observe the frequency inverters or drivers manual. To see if the problem is on your driver or frequency inverter take out the driver/frequency inverter and make direct voltage supply to the motor according the motors nameplate. Still does not work go to ID 100
005	Gearbox Does Not Start Up	You hear some noise but both motor shaft and gearbox shaft is not turning. You are using braked motor	Please Check the voltage supply and frequency of your electric connection. They must be in accordance with the nameplate of the motor. Observe motor manufacturers start up manual. Be sure that the brake is working. Observe the brake manufacturers manuel. If brake is supplied from YILMAZ observe this manuel for correct brake wiring diagram. If still not work supply the brake with voltage according its nameplate directly. For example 198 V DC. You will hear a clicking noise explaining that the brake is opening. If you hear no noise the brake or rectifier is defect. If you hear the clicking noise the brake is working. You should this clicking noise by your normal electric connection as well. By supplying direct supply to the brake you hear the clicking noise and at same time you supply the motor with direct voltage according to its name plate and still same problem, the load may be too high for the chosen motor. Go to ID 003.

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ID	Problem	Observation	Remedy
006	Gearbox Does Not Work in Low speeds / Frequencies.	You are using frequency inverter.	For very low speeds the frequency inverter frequency is lowering down. For very low frequencies the inverter parameter and motor parameter must be optimise. Also for low speeds the efficiency of the gearbox may vary too much. Specially for worm-gearboxes. The recommended frequency range is 20-70 Hz for worm-gearboxes and 10-70 Hz for Helical Gear Boxes. Use Higher motor power and Frequency inverter or change ratio of gearbox to work inside the recommended range.
007	Gearbox Does Not Start Mornings or After Long Time Stop.	Ambient Temperature is below +5 Celsius	The oil is not in accordance with your working conditions. Change to lower viscosity oils. Observe this manual for using the correct oil. Working in higher ambient temperatures is an other solution if possible. If still same problem you need higher motor power.
008	Gearbox is Heating Up too Much	You are using Worm Gear Box and ambient temperature is lower than +40 Celsius	Measure the surface temp. using a temperature measuring device under full load. If the temp is under +80 Celsius this will make no harm to the gearbox and is normal. All ATEX conforming gearboxes and standard worm gearboxes are designed to work under max. +120 Celsius. <u>If higher than +120 Celsius and using ATEX conforming gear box immediately stop the system and contact YILMAZ REDUKTOR.</u> Go to ID 100. If not ATEX confirming check the oil type and oil quantity/level according your mounting position and check the nameplate mounting position. If nameplate mounting position does not fit the actual position go to ID 100.
009	Gearbox is Heating Up too Much	You are using Helical Gear Box. Ambient temp is lower than +40 Celsius	Measure the surface temp. using a temperature measuring device under full load. If the temp is under +80 Celsius this will make no harm to the gearbox and is normal. All ATEX conforming gearboxes are designed to work under max. +120 Celsius. <u>If higher than +120 Celsius and using ATEX conforming gear box immediately stop the system and contact YILMAZ REDUKTOR.</u> If not ATEX gearbox the gearbox is designed to work under max. +80 Celsius. If higher than +80 Celsius check the oil type and oil quantity/level according your mounting position and check the nameplate mounting position. If nameplate mounting position does not fit the actual position go to ID 100
010	Gearbox is Heating Up too Much	Ambient Temp is over +40 Celsius	Standard Gearboxes are designed to work under +40 Celsius. ambient temperature. If ambient temp is higher than +40 Celsius special solutions/gearboxes are required. Please contact YILMAZ
011	Gearbox is noisy	Noise is regular continuous	Check Your moving parts for noise. Disassemble the gearbox and run without load. If you still hear the noise motor bearings or gearbox bearings are defect. Change bearings. Go to ID 100
012	Gearbox is noisy	Noise is random	Check Your moving parts for noise. Disassemble the gearbox and run without load. If you hear still the noise the oil may has some particles inside. Change the oil and look for small particles. If metal particles are found the gearbox may have some damage. Goto ID 100

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ID	Problem	Observation	Remedy
013	Gearbox is noisy	Regular knocking noise	Check Your moving parts for noise. Disassemble the gearbox and run without load. If you still hear the noise one of the gears inside is defect. Go to ID 100
014	Gearbox is noisy	Regular up and down noise	Check the output-shaft connection elements for run out. Take out the output shaft element and run without load. If you still hear the noise one of the gears has run out problem. Go to ID 100
015	Gearbox is noisy	Gearbox is with braked motor and noise is coming from the brake side randomly.	Low randomly clicking noise may come from the brake disk which is normal. If noise level is disturbing the brake may be defect or brake clearance is not adjusted. Go to ID 100
016	Gearbox is noisy	You are using frequency inverter and the noise level is changing according your speed.	The frequency inverter parameters are not optimise for the frequency range or motor you are using. Observe the frequency inverters manual. If still same problem change the ratio of gearbox. Go to ID 100
017	Oil is Leaking	Oil Leakage from Seal	If ambient Temp is over +40 Celsius or none stop work over 16 hours please change the top plug with a breather plug. Observe this manual for using breather plug. If this is not your case the seal could be damaged. Go to ID 100
018	Oil is Leaking	Oil Leakage from Plug	If you are using breather plug be sure it is in the correct place. This is the most top plug position according your mounting position. The plug may be not tight enough. There are some particles under the plug rubber surface. Clean and tighten the plug. If still same problem go to ID 100
019	Oil is Leaking	Oil Leakage from Housing	Observe exactly where the oil is coming out. It could be seal or plug point where it comes out and leaks over the housing. If this is your case go to ID 018/019. If you are sure oil comes out from housing than housing has some micro split / crack. Go to ID 100
020	Oil is Leaking	Oil Leakage from Cover	The sealing liquid under cover is split/defect. Disassemble the cover and put new sealing liquid. Assemble the cover and tighten the bolts. If still same problem go to ID 100
021	Gearbox is moving regularly on its mounting point	You are using Torque Arm	The movement of gear box is because of the run out of the shaft which you assemble the gearbox. This has no bad affect or harm to the gearbox and is normal unless you are using torque arm.
022	Gearbox is moving randomly on its mounting point	You are using Torque Arm	The movement of gear box is because of the run out and clearance of the shaft which you assemble the gearbox. Check the clearance of the assembling shaft and the clearances on your machine. This has no bad affect or harm to the gearbox unless you are using torque arm.
023	Motor is heating up	Motor is running over its nominal current	The motor power is not enough or some overload to the motor is possible. The motor may be defect. Go to ID 100
024	Motor is heating up	Ambient is dusty	Check the motor Fan Hub and ribs. They must be free of dust. If you are using forced external fan, check if it is working. If you are using frequency inverter in low speeds and you do not have forced external fan, you may need forced external fan. Go to ID 100

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ID	Problem	Observation	Remedy
025	Motor is running but Gearbox shaft does not turn	Scratching noise comes out	Some part (key, gear) may be defect inside gearbox. Go to ID 10
026	Gearbox Housing is Defect	You are using chain drive or pinion gear	The radial load or polygon effect of the chain may have caused the damage. Check also if the assembly bolts are loosened or the plate you assemble the gearbox is rigid enough. Check if you are using the correct diameter of chain drive and you are not exceeding max. allowed radial load. Check the position of your output element and re-calculate your radial load and check if this fit to the maximum allowed radial load. Go to ID 100
027	Output Shaft is Defect	You are using chain drive or pinion gear	The radial load or polygon effect of the chain may have caused the damage. Check also if the assembly bolts are loosened or the plate you assemble the gearbox is rigid enough. Check if you are using the correct diameter of chain drive and you are not exceeding max. allowed radial load. Check the position of your output element and re-calculate your radial load and check if this fit to the maximum allowed radial load. Go to ID 100
028	Gearbox is stopping too late	You are using braked motor	Please check the wiring diagram of the brake. There are two different kind of brake wiring diagram. The standard gearbox delivered from our factory is set to delayed braking. For sudden braking check the wiring diagram.
029	Gearbox is starting too late	You are using braked motor	A 24V shock transformer is recommended for fast opening of big brakes (≥ 200 Nm) and shock rectifier is recommended for smaller brakes (< 200 Nm). Go to ID 100.
100	Service Required	No self solution found	Please contact YILMAZ REDUKTOR Service point. See on the back side of this manual. Changing mechanical parts of gearbox can only be done by YILMAZ REDUKTOR or with information of YILMAZ REDUKTOR. Any change without informing YILMAZ REDUKTOR will cancel the warranty, manufacturer declaration and YILMAZ REDUKTOR will take no responsibility.

Appendix



Warranty Conditions:

1. The geared motors and gear units are warranted for two year except the electric motor. For motor warranty please refer to the manual of the electric motor manufacturer or the warranty document of the motor manufacturer. This warranty is valid only if the gearbox is assembled and started up according our operating instructions and is used under the allowed conditions for the appropriate gearbox type in our catalogue. Special Gearbox parts made according customer request are not covered by this warranty.
2. The warranty time starts from the start up time written on the warranty document and last for two years. If the start-up time is more then three months after the billing time, the total warranty time is limited to 27 months starting from billing time. If the warranty document is not send to our company after start-up, the total warranty time will be limited to 24 months after the billing time.
3. Any time during the warranty for maintenance, repair or change will be added to the warranty time. This time starts from the date which the company or representative was made aware of the problem and ends on the date of the re-start-up.
4. If the product fails to operate because of a manufacturing or assembly failure during the warranty time, the product will be repaired free of charge.
5. If the product fails to operate because of a manufacturing or assembly failure during the warranty time and it is not possible to repair it, the product will be changed with a new one according to the report from our service department mentioning that the hazard can not be repaired.
6. Costumers must inform the manufacturer if there are some problems after the service and repair of the failed product.
7. The extra costs like stopped plant, physical or mental injuries etc. by the costumer side are not covered by this warranty except the product itself.

YILMAZ REDÜKTÖR San. ve Tic. A.S.

ATATÜRK Mah. Lozan Cad. No:17 P.K.:34522 Esenyurt-İstanbul-TÜRKİYE

Phone: +90 (0) 212 886 90 00 (8 Lines)



Warranty Decleration and Instruction Manual Receipt Form

YILMAZ REDUKTOR products are **warranted for 2 (Two) years** covering all parts and materials used in products and their production errors unless they are started-up and used according our service manual and is not modified or disassembled without an acknowledgement from our company.

The warranty covers all costs like repair, service, spare parts etc. and no charge will be asked under any name. The time for repair, service will be added to the warranty time.

For detailed warranty conditions please refer the back side of this page.

Serial No:

Type:

Manufacturer:

Company : YILMAZ REDUKTOR Sanayi ve Ticaret A.S.

Address : ATATÜRK Mah. Lozan Cad. No:17 P.K.34522 Esenyurt-İstanbul- TÜRKİYE

Telefon : +90 (0) 212 886 90 00 (8 Lines)

Stamp and Signature

Supplier / End User:

With signing this part and sending this back to our company your warranty period will be started and you are accepting that you have received the operating instruction of the product.

Name:

Billing Date/ Bill No.:

Start-Up Place / Date:

Address:

Phone:

Supplier/ End User Stamp and Signature



Domestic Service

Tel: +90 212 886 90 00

Int: 1223, 1228, 1287

Whatsapp: +90 554 713 71 02

E-Mail: servis@yr.com.tr

Spare Parts

Tel: +90 212 886 90 00

Int: 1224, 1277

Whatsapp: +90 506 774 44 35

E-Mail: yedekparca@yr.com.tr

International Services

If you call the above service point, you will be directed to our nearest service.

Yılmaz Redüktör Sanayi ve Ticaret A.Ş.

Atatürk Mah. Lozan Cad. No: 17, 34522 Esenyurt - İstanbul / Turkey

Tel: +90 212 886 90 00 | E-Mail: yilmaz@yr.com.tr