VISTO	FIRMA	DATA
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INSTALLATION

Gearmotors and reduction gearboxes must be installed in a way to avoid mechanical stresses and vibrations.
The mounting base must be level and of adequate dimensions and rigidity.
To enhance a quiet running of the gear units, avoid mounting over structures that can act as resonance boxes. If necessary, silent-blocks can be used to reduce vibrations.
Ensure adequate air circulation around the gear unit; the cooling air must be easily drawn by the motor fan and discharged on the opposite end without recirculation and obstructions.
Avoid installations near heat sources.
If the gear unit is coupled directly to the driven equipment, it is advisable to use a flexible coupling without radial play. If there is the chance of locking or sudden stoppage, it is advisable to use a torque limiter or safety coupling.
Accurately align both shafts to avoid unbalanced loads that can lead to bearing damage.
If instead the gear unit is coupled indirectly to the driven equipment (i.e. belt or chain transmissions), assure that the diameter of the pulley or sprocket mounted on the output shaft and the resulting radial and/or axial loads are within the limits indicated in the catalog.
While mounting transmission elements (pulleys, sprockets, couplings) on the output shaft, avoid hammering and damaging shocks. It is advisable to heat the transmission element (up to 100 °C approx.) before mounting.
Remove the transmission element by means of an appropriate puller.
Make sure that the power supply line corresponds to the values indicated on the motor nameplate and that the terminal connection is either star or delta, according to line voltage.
Gearmotors and reduction gearboxes can be constructed to operate in any mounting arrangement (see catalog), but the quantity of oil required will vary for each mounting arrangement.
They can rotate either clock-wise or counter-clock-wise, except those units equipped with back-stop.
The direction of rotation can be reversed by changing any two phase cables of the power supply line.

MAINTENANCE

Under normal operating conditions gearboxes need very little care.
If the unit was correctly selected and propperly installed, it will be enough to follow the lubricating instructions concerning oil quality, quantity and oil service interval.
It is important to accurately rinse the gearbox with an appropriate fluid, such as kerosene, before replenishing with new oil, specially if a different oil brand and/or type will be used.

LUBRICATION

A2 and A3: by grease; A4, A5 and A6: by oil splash.

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Grease lubricated units (A2 and A3) are delivered with the recommended grease charge. Oil lubricated units (A4, A5, A6) are delivered empty; upon receival and before operating, refill with appropiate oil.
Use only high quality oil for helical spur gears (refer to the table of recommended lubricants for FIMET equipment).
After the first 1000 hours of operation, the oil must be changed; run the gearbox with kerosene for 1 min. approx. to rinse the turning elements and case before replenishing with new oil.
Follow the above procedure at each oil service interval which depends on the temperature reached by the oil during operation:

Oil temperature	Oil service interval
up to 60 °C	8000 - 9000 hours
60 to 80 °C	4000 - 5000 hours
80 to 100 °C	2000 - 2500 hours

In any case, the oil must be changed every 2 years.
To avoid blown seals in units lubricated by oil (caused by high internal case pressure), periodically check that the vent hole in the oil filler cap is free of dirt and obstructions.
Units A5 and A6 are equipped with a grease lubricated bearing on the input shaft. This bearing must be lubricated every 2000 ours of operation as follows:
Stop the unit and remove the grease drain plug.
Charge with grease until a string of clean grease exits the drain side.
Run the unit and replace the drain plug once any excess of grease has been pushed out by the rotating bearing.
Grease lubricated units: under normal operating conditions (service factor = 1), the grease must be changed every 8000 hours of operation, or every 2 years, whichever occurs first.
Before applying the new grease charge, remove the old grease using kerosene.
Use high quality, semi-fluid grease for gears with high penetration and viscosity characteristics and dropping point between 130 and 140 °C).
Note: the periodic oil level check and replenishing must be conducted with the unit stopped.
Always use the same oil or grease quality and type.

QUANTITY of LUBRICANT REQUIRED

TYPE	OIL (Kg)				GREASE
	B3	B6	B7	V1	(Kg)
A2					0,7
A3					1
A4	1,5	2,3	2,6	2,7	
A5	2,6	4,2	4,4	4,5	
A6	4,2	6,7	7,8	8	

FIRMA	DATA	MODIFICHE

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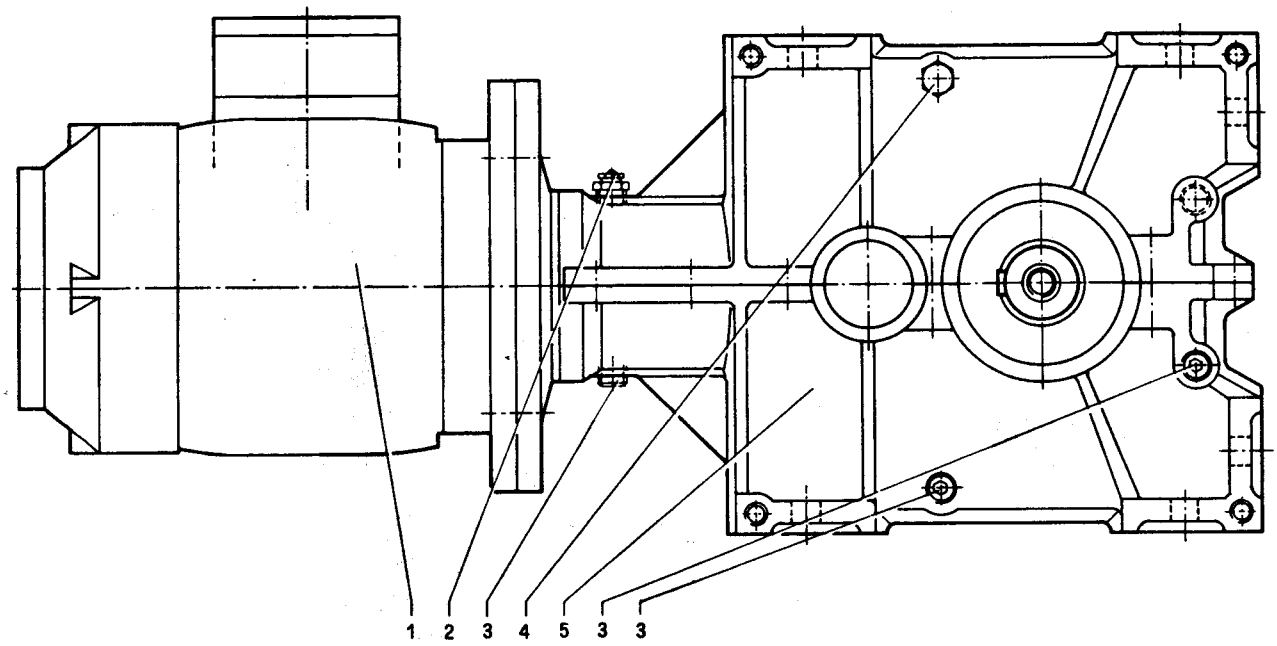
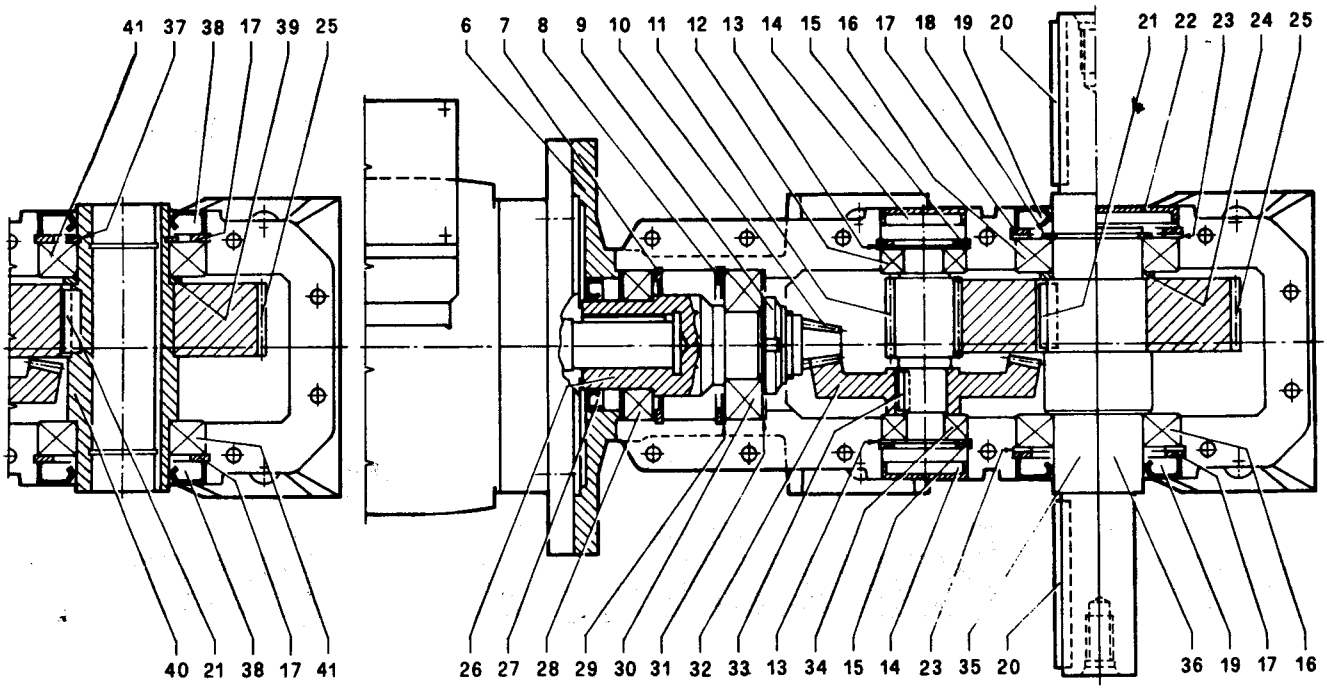
MOTORIDUTTORI AD ASSI ORTOGONALI
MOTOREDUCTEURS A AXES ORTOGONAUX
KEGELRADGETRIEBEMOTOREN
HELICAL-BEVEL GEARMOTORS

serie "A" - Nomenclatura dei particolari
séries "A" - Nomenclature des pièces
Reihe "A" - Einzelteile
series "A" - Parts list





FIMET

MOTORIDUTTORI AD ASSI ORTOGONALI serie "A" - Nomenclatura
MOTOREDUCTEURS A AXES ORTOGONAUX séries "A" - Nomenclature des
KEGELRADGETRIEBEMOTOREN Reihe "A" - Einzelteile
HELICAL-BEVEL GEARMOTORS series "A" - Parts list

N°	Denominazione	Dénomination	Beschreibung	Name
1	Motore	Moteur	Motor	Motor
2	Ingrassatore	Graisseur	Schmiernippel	Grease nipple
3	Tappi livello e scarico olio	Bouchons de niveau et de vidange	Ölstand-u. Ablasschraube	Oil level and drain plugs
4	Tappo introduzione olio	Bouchon de remplissage	Einfüllstopfen	Oil inlet plug
5	Carter	Carter	Gehäuse	Centre casing
6	Flangia attacco motore	Bride pour montage du moteur	Motorkupplungflansch	Motor coupling flange
7	Anello paragrasso	Rondelle pare-graisse	Fettdichtunsgring	Grease retaining ring
8	Rondella	Rondelle	Scheibe	Washer
9	Ghiera	Manchon	Ring	Ring nut
10	Pignone 1° rapporto	Pignon primaire (1er rapport)	Ritzel (1e Stufe)	1st stage pignon
11	Contralbero 2° rapporto	Contre-arbre (2ème rapport)	Ritzelwelle (2e Stufe)	2nd stage countershaft
12	Cuscinetto	Roulement	Wälzlager	Bearing
13	Rondelle di aggiustaggio	Rondelle d'ajustage	Distanzscheiben	Adjustment washers
14	Guarnizione a tappo	Couvercle fermé	Deckel	Seal cap
15	Rondella	Rondelle	Scheibe	Washer
16	Cuscinetto	Roulement	Wälzlager	Bearing
17	Rondella	Rondelle	Scheibe	Washer
18	Anello elastico	Circlips	Seegerring	Circlip
19	Anello di tenuta	Bague d'étanchéité	Dichtring	Seal ring
20	Linguetta	Clavette	Passfeder	Key
21	Linguetta	Clavette	Passfeder	Key
22	Guarnizione a tappo	Couvercle fermé	Deckel	Seal cap
23	Rondelle di aggiustaggio	Rondelle d'ajustage	Distanzscheiben	Adjustement washers
24	Distanziale	Rondelle d'épaisseur	Distanzring	Spacer ring
25	Ruota 2° rapporto	Roue secondaire (2ème rapport)	Stirnrad (2e Stufe)	2nd stage gear
26	Manicotto	Manchon	Antriebswelle	Sleeve
27	Anello di tenuta	Bague d'étanchéité	Dichtring	Seal ring
28	Cuscinetto	Roulement	Wälzlager	Bearing
29	Rondelle di aggiustaggio	Rondelle d'ajustage	Distanzscheiben	Adjustement washers
30	Cuscinetto	Roulement	Wälzlager	Bearing
31	Rondelle di aggiustaggio	Rondelle d'ajustage	Distanzscheiben	Adjustement washers
32	Ruota 1° rapporto	Roue (1er rapport)	Stirnrad (1e Stufe)	1st stage gear
33	Linguetta	Clavette	Passfeder	Key
34	Cuscinetto	Roulement	Wälzlager	Bearing
35	Albero lento a doppia sporgenza	Arbre lent a deux arbres sortants	Beidseitige Abtriebswelle	Double output shaft
36	Albero lento sporgente	Arbre lent sortant	Abtriebswelle	Projecting output shaft
37	Anello elastico	Circlips	Seegerring	Circlip
38	Anello di tenuta	Bague d'étanchéité	Dichtring	Seal ring
39	Distanziale	Rondelle d'épaisseur	Distanzring	Spacer ring
40	Albero lento cavo	Arbre lent creux	Hohlwelle (Abtrieb)	Hollow output shaft
41	Cuscinetto	Roulement	Wälzlager	Bearing

Nella richiesta di particolari di ricambio precisare: N° e denominazione del particolare, tipo e numero di matricola.

Préciser à la commande des pièces de rechange: N° et dénomination de pièce, type et numéro de l'appareil.

Bei der Ersatzteilbestellung ist es unbedingt nötig: N° Beschreibung des Teiles, Typs und Seriennummer anzugeben.

When requesting spare parts specify: N° and name of part, type and serial number.

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APPENDICE 1:
LUBRIFICANTI RACCOMANDATI

APPENDIX 1:
RECOMMENDED LUBRICANTS

Applicazione *Application*	Tipo di lubrificante *Lubricant type*	Temperatura ambiente *Enviromment temperature* °C	Viscosità cinetica a 40 °C *Kinetyc Viscosity at 40 °C* cSt-mm²/s	Viscosità a 50 °C *Viscosity at 50 °C* °Engler	IP	SHELL	MOBIL	ESSO	BP
Motoriduttori e riduttori a ingranaggi cilindrici o a coppia conica *Helical and helica-bevel gearmotor and reduction gears*	Olio *Oil*	+100 ... +60	–	–	IP Telesia Oil 150	Shell Omala Oil RL 150	Mobil SHC 629		
		+60 ... +35	506 ... 414	32 ... 28	IP Mellana Oil 460	Shell Omala Oil 460	Mobilgear 634	Spartan EP 460	BP Energol GR-XP 460
		+35 ... -5	352 ... 288	25 ... 20	IP Mellana Oil 320	Shell Omala Oil 320	Mobilgear 632	Spartan EP 320	BP Energol GR-XP 320
		-5 ... -20	165 ... 135	12 ... 9	IP Mellana Oil 150	Shell Omala Oil 150	Mobilgear 629	Spartan EP 150	BP Energol GR-XP 100
		-20 ... -40	165 ... 90	12 ... 7	IP Telesia Oil 150	Shell Omala Oil RL 150	Mobil SHC 629		
	Grasso *Grease*	+40 ... -20	—	—	IP Atina Grease 0	Supergrease EPO	Mobilplex 44		BP Energrease HT-EP 00
	Grasso sintetico *Synt. grease*	+ 100 ... -20	—	—	IP Telesia Compound A	Shell Tivela Compound A			
Riduttori a vite senza fine *Worm reduction gears*	Olio *Oil*	+ 60 ... +40	—	—	IP Telesia Oil 150	Shell Omala Oil RL 150	Mobil SHC 629		
		+40 ... + 25	352 ... 288	25 ... 20	IP Mellana Oil 320	Shell Omala Oil 320	Mobilgear 632	Spartan EP 320	BP Energol GR-XP 220
		+25 ... -15	242 ... 198	20 ... 15	IP Mellana Oil 220	Shell Omala Oil 220	Mobilgear 630	Spartan EP 220	BP Energol GR-XP 220
		-15 ... - 40	165 ... 90	12 ... 7	IP Telesia Oil 150	Shell Omala Oil RL 150	Mobil SHC 629		
	Grasso *Grease*	+60 ... -20	—	—	IP Telesia Compound A	Shell Tivela Compound A			
Applicazioni speciali *Special applic.*	Olio sintetico *Synt. oil*	+80 ... -25	352 ... 135	25 ... 9	IP Telesia Oil 150	Shell Tivela WA	Mobil Glycoyle 30		BP Energol SG-XP 220
	Grasso sintetico *Synt. grease*	+60 ... -20	—	—	IP Telesia Compound A	Shell Tivela Compound A			
Cuscinetti volventi *Bearings*	Grasso *Grease*	+60 ... -20	—	—	IP Athesia Grease 3	Shell Alvania Grease R 3	Mobilux EP 2	Beacon EP 2	BP Energrease LS 3
		+100 ... -45	—	—		Aero Shell Grease 22	Mobiltemp SHC 100		
	Grasso speciale *Special grease*	+100.. -25	—	—	IP Silis Grease HTL	— SRI Grease 2 Chevron — LGHQ3 SKF			