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Installation, Maintenance and Stocking of bevel-boxes, phase-moving and switching gearunits from P.C.M. srl

Attention: please read following information carefully before mounting or executing maintenance:

When mounting the bevel boxes in the machines where they are used it is needed to check very well the alignment of the gearshafts with the machine shafts. When alignment is not correct, the mechanical parts, especially the mounted bearings, will be overcharged and lifetime will be shortened.

The bevelboxes have to be mounted on a flat and rigid surface to prevent movements, oscillations or vibrations and to withstand the weight of the units.

In the following table the weight in kg of the various bevel boxes in execution A with ratio 1:1, is given:

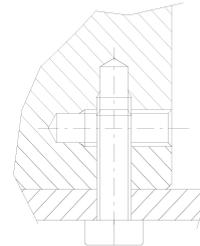
Unitsize	BG12	BG19	BG24	BG32	BG38	BG42	BG55	BG75
Weight	2.5	6	12	22	37	57	87	255

To mount the bevel boxes the threaded holes in the cubic box, flanges and hubs should be used.

Note: The threaded holes in the cubic box are interfering with each other therefore it is only advisable to use the mounting holes only on one surface, See figure at the side.

Before mounting the units, the mounting surfaces from the gear unit as well as from the machine are to be cleaned carefully to prevent incorrect mounting.

When mounting a transmission element like f.e. an elastic coupling, sprocket etc. for which it is needed to heat up the female part, please do not heat up this part over 80-100° over 80-100° C.



The bevel boxes are supplied lubricated with grease for a use at an input speed up to and not over 700 rpm.

In all other cases oil lubrication has to be used.

If units are to be used with oil lubrication it has to be mentioned at ordering and these units will be supplied with mounted filling and breather plug, oil level plug and with a drain plug.

The phase moving units as well as the switching units normally are supplied with oil lubrication.

All units with oil lubrication are supplied without lubricant, indicated on the unit with a sticker which mentioned "Senza Olio"

Filling or draining has to be carried out at stationary units for obvious reasons of safety.

Regarding filling instructions concerning quantities of lubricants please refer to following table, do not overfill or completely fill the units; this would cause overheating and loss off efficiency .

The following table indicates the quantity of lubricants in kg for the various sizes and is valid for the execution A with a ratio 1:1.

Unitsize	BG12	BG19	BG24	BG32	BG38	BG42	BG55	BG75
Grease	0.15	0.22	0.35	0.9	1.7	3.5	5.5	14
Oil	0.1	0.15	0.22	0.6	1.1	2.2	3.6	9

Lubricant selection table

Ambient temperature 0°C-35°-40°C.

	from 0 to 100 rpm	from 100 to 400 rpm	from 400 to 700 rpm	from 700 to 1000 rpm	from 1000 to 1500 rpm	from 1500 to 3000 rpm
BG12	Grease	Grease	Grease	B/2	B/2	B/2
BG19	Grease/A/1	Grease/B/2	Grease/B/2	B/2	B/2	B/2
BG24	Grease/A/1	Grease/B/2	Grease/B/2	B/2	B/2	B/2
BG32	Grease/A/1	Grease/B/2	Grease/B/2	B/2	B/2	B/2
BG38	Grease/A/1	Grease/A/1	Grease/B/2	B/2	B/2	B/2
BG42	Grease/A/1	Grease/A/1	Grease/B/2	B/2	B/2	C/3
BG55	A/1	A/1	B/2	C/3	C/3	not possible at this speed
BG75	A/1	A/1	C/3	C/3	not possible at this speed	not possible at this speed

MINERAL OIL

	ISO VG a 40°	MOBIL	SHELL	IP	ESSO	TRIBOL
A	320	Mobilgear 632	Omala Oil 320	Mellana 320	Spartan EP 320	1100/320
B	220	Mobilgear 630	Omala Oil 220	Mellana 220	Spartan EP 220	1100/220
C	150	Mobilgear 629	Omala Oil 150	Mellana 150	Spartan EP 150	
D	68	Mobilgear 626	Omala Oil 68	Mellana 68	Spartan EP 68	1100/68

SYNTHETIC OIL

	ISO VG a 40°	MOBIL	SHELL	IP	ESSO	TRIBOL
1	320	SHC-632		Energyn EPX320		1510/320
2	220	SHC-630	Tivela Oil WB	Energyn EPX220		1510/220
3	150	SHC-629	Tivela Oil WA	Energyn EPX150		1510/150
4	68	SHC-626				

GREASE

	GREASE	
	Mobil	Esso
Mineral	Mobilux EP004	Beacon EP2
Synthetic	Gligoyle Grease 00	

Note: Except for special executions the bevel boxes are supplied with grease Mobilux EP004

The bevel boxes should be controlled regularly for the loss of oil through the flanges or through the oilseals. The units that have been supplied with oil level plugs, the oil level can be checked at this oil level eye which should be completely filled. In opposite case the unit should be filled up to the right level. The checking of the units has to be carried out at stationary units. The oil changing intervals depends in function of the use of the gearunit, but normally the lubricant should be changed every 10.000 hours.

Every unit assembled by PCM is checked with a short test to confirm correct mounting, but it is advised not to excessive overcharge the units the first working hours. The bevel boxes are reaching their best efficiency after a running-in period of several hours, if necessary at full load also the first hours, but this will shorten a little the total lifetime. If a running-in period is carried out in this way a higher noise level and an overheating during lifetime can occur.

If the units are stocked for a longer shelf life in a corrosive or salty atmosphere, they should be adequately protected. The shafts should be turned regularly for 180 ° so the lubricant will not be present only down in the units and leave upper parts of the gears and bearings uncovered with lubricant with a result of corrosion. Shafts and if necessary other surfaces should be covered with a thin oil film to prevent rusting.

In case an oil lubricated bevel box will be kept inactive for longer time, oil should be drained from the unit and filled up to the correct level before mounting.