

## 2.1. Spur Gear Unit GV and GVL

The flange-mounted LEONARD spur gear unit GV and GVL (see figure 2.1.1 to 2.1.4) is a slip-on gearbox free from backlash with a maximum ratio of 1:10 and a maximum reduction of 8000:1. If the LEONARD gearbox is used to drive a LEONARD rotary cam switch, the gearbox ensures, that the speed of the cam shaft is synchronized to the speed of drive unit.

The spur gear unit GV is suitable to drive the LEONARD rotary cam switches GSW100, GSW100E, GSW100M, GGSW100 and GGSW120, while the spur gear unit GVL is suitable to drive our types LNSE and LNSW. Both gearboxes are cased in housings made of cast aluminium.

The mounting of this slip-on gearbox is very simple: The gearbox is pushed on the cam shaft (spindle) of the rotary cam switch and fitted with four screws M6 (GV) or 2 screws M8 (GVL).



Fig. 2.1.1:  
Spur Gear Unit GV



Fig. 2.1.2:  
Spur Gear Unit GVL

### Mechanical data:

type:	GV	GVL
housing:	cast aluminium	cast aluminium
housing colour:	RAL 6011 „green hammer finish“, optional seawaterproof performance	RAL 6011 „green hammer finish“, optional seawaterproof performance
gear wheels:	spur gear, life lubrication, maintenance free	spur gear, life lubrication, maintenance free
driving spindle (input):	Ø20h6, ground, with centre hole according to DIN 332, with feather key according to DIN 6885	Ø15h6, ground, with centre hole according to DIN 332, with feather key according to DIN 6885
hollow shaft (output):	Ø20H7, with feather key according to DIN 6885	Ø15H7, with feather key according to DIN 6885
bearing:	deep groove ball bearings, maintenance free	deep groove ball bearings, maintenance free
max. drive speed:	3000 r.p.m.	3000 r.p.m.
max. torque:	15 Nm	15 Nm
fitting position:	any	any
weight:	3,5 to 4,5 kg	3,5 to 4,5 kg
ambient temperature:	-25 °C to +90 °C	-25 °C to +90 °C
storage temperature:	-30 °C to +100 °C	-30 °C to +100 °C

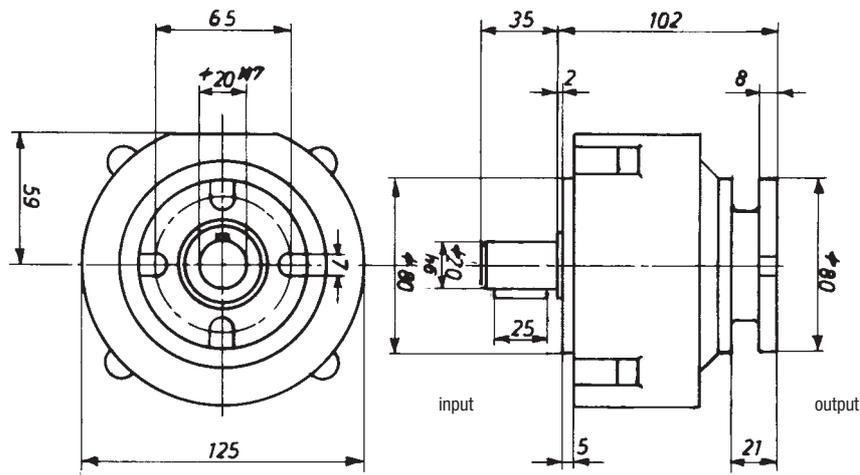


Fig. 2.1.3: Dimensioned Drawing GV

$$i = \frac{\text{input}}{\text{output}}$$

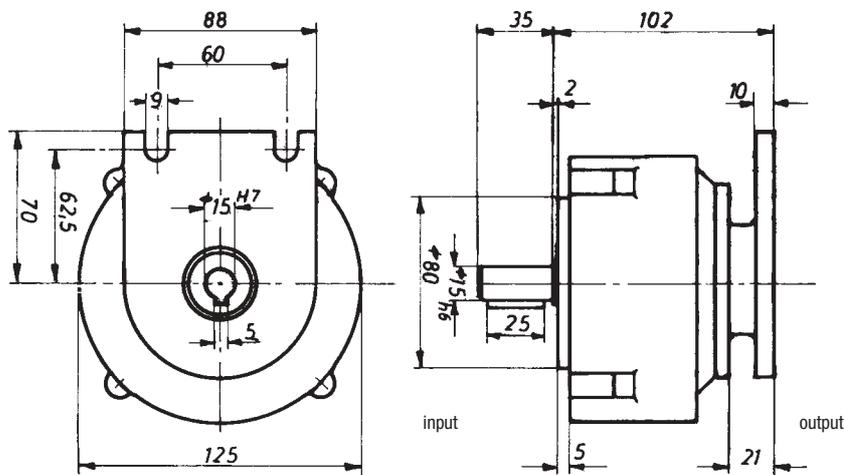


Fig. 2.1.4: Dimensioned Drawing GVL

The normally ratios of our spur gear units GV and GVL are as follows:

1:10	2:1	10:1	35:1	175:1	504:1	1500:1	7020:1
1:8	3:1	12:1	45:1	200:1	560:1	2024:1	8000:1
1:6	4:1	15:1	54:1	248:1	624:1	2414:1	
1:5	5:1	16:1	75:1	300:1	740:1	3024:1	
1:4	6:1	18:1	100:1	352:1	900:1	3509:1	
1:3	7:1	20:1	125:1	400:1	1000:1	4004:1	
1:2	8:1	25:1	154:1	430:1	1225:1	5564:1	

Other ratios on request.

### Ordering instructions for spur gear unit:

type	ratio
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Example:

GVL 175:1
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