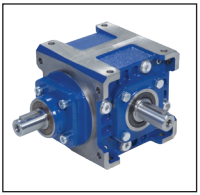
Right angled gearbox

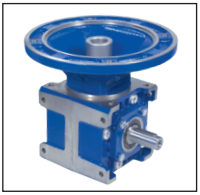
HLA HLC

With spiral bevel gears

- Gearbox available with 3 different final ratios and 3 types of output shaft, hollow, single or dual. It is also possible to have an additional optional output shaft on the opposite side to the input.
- Three input types are available; a projecting shaft (**HLA**), a coupling for a motor (bell and joint are options) or a coupling for a compact motor with an IEC flange (**HLC**).
- The cast iron body (EN GJL 200 UNI EN 1561) has internal and external ribs to ensure rigidity and is machined on all surfaces for easy positioning. A single lubrication chamber guarantees improved heat dissipation and better lubrication of all internal components.
- The internal mechanism of these gearboxes consists of a train of steel (16CrNi4 or 18NiCrM05) GLEASON spiral bevel gears with precision lapped profiles.
- The use of high quality bearings on all axes ensures a long life even under conditions of very high radial and axial stresses.
- The body of the gearbox, flanges, bells and covers have a RAL5010 blue painted finish.



HLA With input shaft

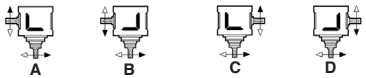


HLC With motor flange

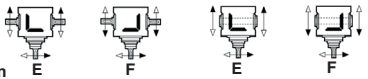
The different types of input, rotation direction (see table below) and mounting positions (see table opposite) offer a wide variety of possible configurations and make up the final Part N°.
The following modifications should be made to the basic reference:

Basic Part number - Input type-Direction of rotation-Mounting position
Example: HLC19-1-C-71B5-F-VA

i = 1 i > 1



i = 1 i > 1



Direction of rotation

Right angled gearbox

With spiral bevel gears

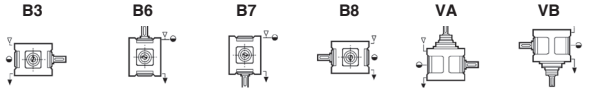
HLA HLC

Lubrication

Right angle gearboxes require oil lubrication and are fitted with filling points, drain plugs and level gauges. The mounting position should always be specified in the Part N° when ordering. The HLA19 gearbox is lubricated for life.

Mounting position and oil volume (litres)

The quantities of oil shown in the following table are given as a guide only and apply for the mounting position shown. They have been calculated for correct operation in normal ambient temperature and an input speed of 1,400 rpm.



L	B3	B6	B7	B8	VA	VB
19	0,2	0,2	0,2	0,2	0,2	0,2
24	0,4	0,8	0,8	0,4	0,6	0,5
28	0,9	0,8	0,8	0,8	0,9	0,8

The thermal power

The table opposite gives the thermal power ratings (Pt0 (kW) for all gearbox sizes.

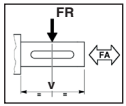
n1 (rpm)	Thermal power (kW)		
	L19	L24	L28
1400	4,5	6,7	10,3

FS: *service factor with motor*
T2: *Torque with service factor*
T2M: *Torque with service factor of 1*
***Values highlighted in grey** should be modified using the appropriate service factor and thermal power.*

L	n_1 = 1400		LC			LA	
	ir	n_2	T_2	P_1	FS'	T_{2M}	P
	ratio	rpm	Nm	kW		Nm	kW
19	1	**1400**	12	1,8	3	35	5,5
	2	**700**	24	1,8	1,7	40	3
	3	**467**	36	1,8	1,2	43	2,2
24	1	**1400**	26	4	2,7	73	11
	2	**700**	53	4	1,4	72	5,5
	3	**467**	78	4	1	78	4
28	1	**1400**	61	9,2	2,4	146	22
	2	**700**	122	9,2	1,2	145	11
	3	**467**	182	9,2	1	182	9,2

Axial and radial loads (N)

The radial loads shown in the table are given for loads applied to the mid-point of the shaft and are given for gears operating with a service factor of 1.



i_n	L					
	19		24		28	
	Input shaft (at 1400 rpm)					
	Fr_1	Fa_1	Fr_1	Fa_1	Fr_1	Fa_1
1-2-3	400	80	630	125	1000	200
	Input shaft (at 1400 rpm)					
	Fr_2	Fa_2	Fr_2	Fa_2	Fr_2	Fa_2
1	800	160	1250	250	2000	400
2-3	1000	160	1600	320	2500	500

For In the case of dual projecting shafts, the load applied to each shaft is limited to 2/3 of the value given subject to the condition that the loads are identical, are applied in the same direction and have the same direction of rotation.