Range

Analyze the application to make sure that the proper encoder will be selected for the machine.

To do this, bear in mind the following considerations

Linear

Installation

Consider the physical length of the installation and the space available for it.

These aspects are crucial to determine the type of linear encoder to use (type of profile).

Accuracy

Each linear encoder comes with a graph showing its accuracy along its measuring length.

Signal

The signal selection considers the communication protocols compatible with the main CNC manufacturers.

Resolution

The resolution of the control of machine-tools depends on the linear encoder.

Cable length

The length of the cable depends on the type of signal.

Compatibility

The signal must be compatible with the control system.

Speed

The speed requirements for the application must be analyzed before choosing the linear encoder.

Shock and Vibration

Fagor linear encoders withstand vibrations of up to 20 g and shocks of up to 30 g.

Angular

Installation

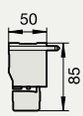
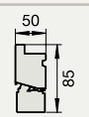
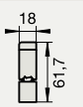
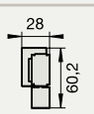
This point considers the physical dimensions of the installation and the space available for it.

It is essential to determine its type of shaft: Hollow or solid.

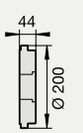
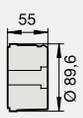
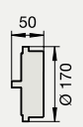
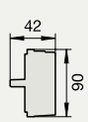
Accuracy

Each encoder comes with a graph showing its accuracy along its measuring length.

Linear

Series	Section	Measuring lengths
LA Long		440 mm to 50 m
GA Wide		140 mm to 3 040 mm
SA Reduced		70 mm to 1 240 mm
SVA Reduced		70 mm to 2 040 mm

Angular

Series	Section	Type of shaft
HA-D200		Hollow shaft
HA-D90		Hollow shaft
SA-D170		Solid shaft
SA-D90		Solid shaft

Accuracy	Signals	Pitch Resolution up to	Model	Page
± 5 µm	SSI + 1 Vpp FAGOR SSI + 1 Vpp SIEMENS®(*) FANUC® / MITSUBISHI® / PANASONIC® / FAGOR SIEMENS®(*)	0.1 µm	LA	16 and 17
		1 µm	LAS	
		0.01 µm	LAF / LAM / LAP / LAD	
			LAD + EC-PA-DQ	
± 5 µm and ± 3 µm	SSI +1 Vpp FAGOR / SIEMENS®(*) FANUC® / MITSUBISHI® / PANASONIC® / FAGOR SIEMENS®(*)	0.1 µm	GA / GAS	18 and 19
		0.01 µm	GAF / GAM / GAP / GAD GAD + EC-PA-DQ	
± 5 µm and ± 3 µm	SSI +1 Vpp FAGOR / SIEMENS®(*) FANUC® / MITSUBISHI® / PANASONIC® / FAGOR SIEMENS®(*)	0.1 µm	SA / SAS	20 and 21
		0.01 µm	SAF / SAM / SAP / SAD SAD + EC-PA-DQ	
± 5 µm and ± 3 µm	SSI +1 Vpp FAGOR / SIEMENS®(*) FANUC® / MITSUBISHI® / PANASONIC® / FAGOR SIEMENS®(*)	0.1 µm	SVA / SVAS	22 and 23
		0.01 µm	SVAF / SVAM / SVAP / SVAD SVAD + EC-PA-DQ	

Accuracy	Signals	Model	Page
± 2” and ±1”	SSI +1 Vpp FAGOR / SIEMENS® (*)	HA-D200/ HAS-D200	24
	FANUC® / MITSUBISHI® / PANASONIC® / FAGOR	HAF-D200 / HAM-D200 / HAP-D200 / HAD-D200	
	SIEMENS (*)	HAD-D200 + EC-PA-DQ	
± 5” and ±2,5”	SSI +1 Vpp FAGOR / SIEMENS® (*)	HA-D90 / HAS-D90	25
	FANUC® / MITSUBISHI® / PANASONIC® / FAGOR	HAF-D90 / HAM-D90 / HAP-D90 / HAD-D90	
	SIEMENS (*)	HAD-D90 + EC-PA-DQ	
± 2”	SSI +1 Vpp FAGOR / SIEMENS® (*)	SA-D170 / SAS-D170	26
	FANUC® / MITSUBISHI® / PANASONIC® / FAGOR	SAF-D170 / SAM-D170 / SAP-D170 / SAD-D170	
	SIEMENS (*)	SAD-D170 + EC-PA-DQ	
± 5” and ±2,5”	SSI +1 Vpp FAGOR / SIEMENS® (*)	SA-D90 / SAS-D90	27
	FANUC® / MITSUBISHI® / PANASONIC® / FAGOR	SAF-D90 / SAM-D90 / SAP-D90 / SAD-D90	
	SIEMENS (*)	SAD-D90 + EC-PA-DQ	

* SIEMENS®: valid for family Solution Line.