

Product Data Sheet

GF20 is an AC powered linear actuator with a Ball Screw drive and a Stainless Steel extension tube. It features a heavy load capability with minimal current deviation, and is suitable for a wide variety of industrial and agricultural applications.



Standard Features:

- Input voltage: 115V AC / 60Hz or 230V AC / 50Hz
- Maximum rated load: 787 lbf (3,500N) with 40:1 Gear Ratio
- Maximum static load: 1,112 lbf (4,500N)
- Maximum speed at no load: 2.0 inches/sec with 5:1 Gear Ratio
- Available stroke lengths: 4, 6, 8, 10, 12, 18, 24 inches
- IP rating: IP65
- Overload protection: Clutch
- Extension tube material: Stainless Steel
- Color: Black
- Power cord length: 24 in. (with tinned wires)
- Duty cycle: 25%, maximum 4 minutes continuous operation in 16 minutes
- Operating ambient temperature: -13°F ~ +149°F (-25°C ~ 65°C)
- Certifications: UL1004-1, CE Marking, EMC Directive 2014/30/EU

Options:

- Potentiometer to provide absolute position feedback
- Preset internal limit switches to de-energize motor at end of stroke

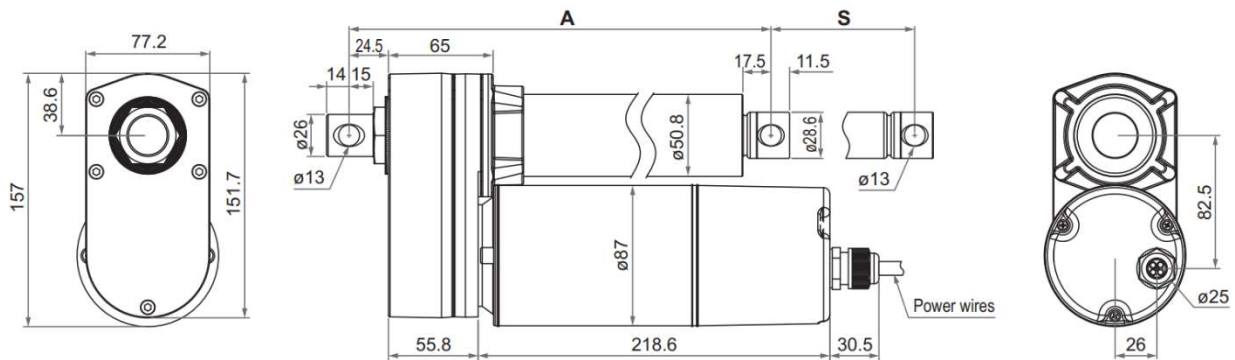
Dimensions

- Retracted Length "A" (All dimensions are in mm)

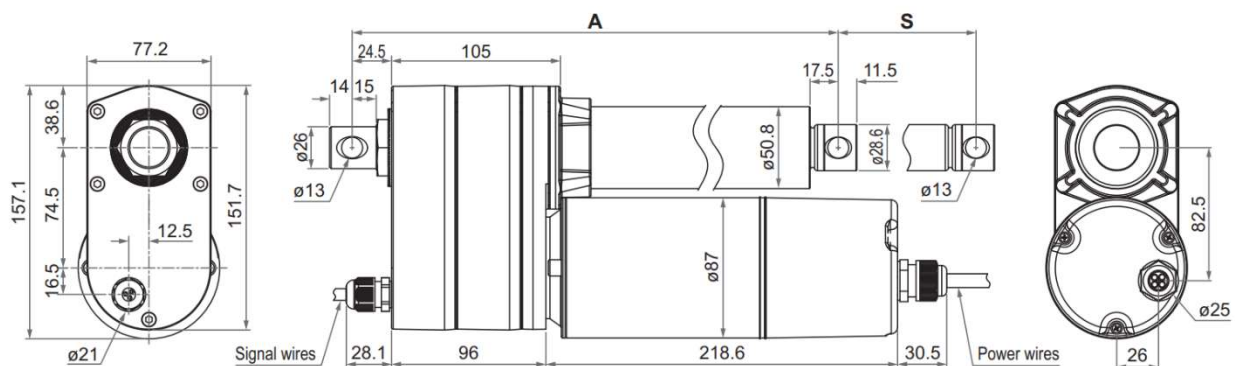
Option	Stroke Length "S" (Tolerance: ± 7 mm)						
	102 (4")	153 (6")	203 (8")	254 (10")	305 (12")	457 (18")	610 (24")
Standard	302	353	404	455	506	735	888
Potentiometer	342	393	444	495	546	775	928
Limit Switches or LS + Pot	399	450	501	552	680	832	985

(Tolerance: ± 5 mm)

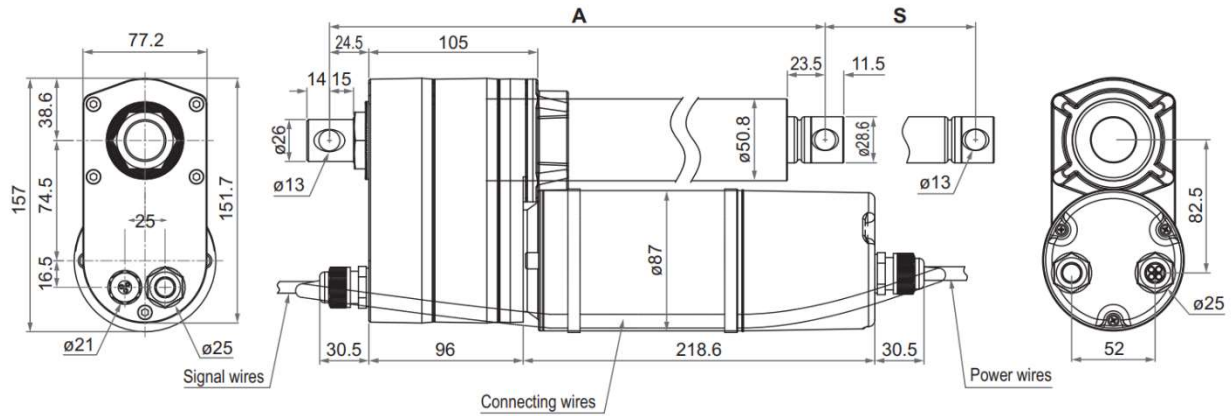
- Standard



- With Potentiometer

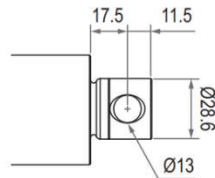


- With Limit Switches, or Limit Switches *and* Potentiometer

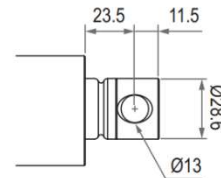


- Front Connector

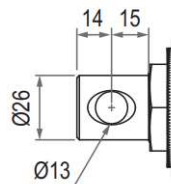
- Standard or with Potentiometer



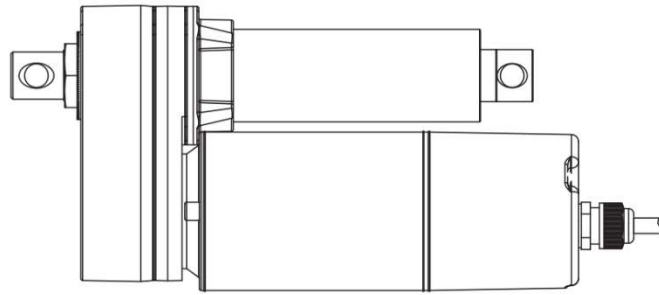
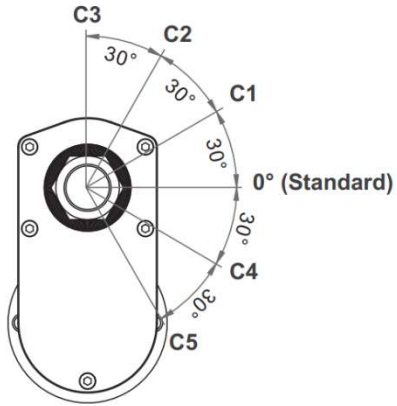
- With Limit Switches or with both
Limit Switches *and* Potentiometer



- Rear Connector



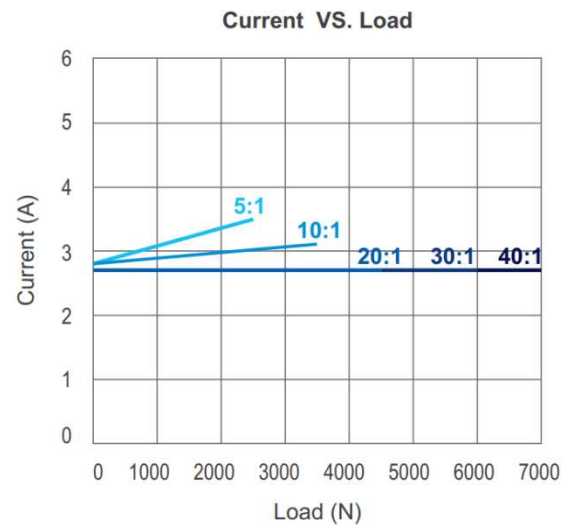
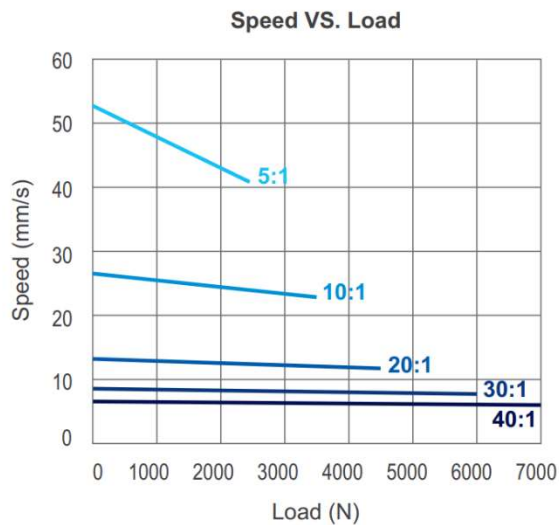
- Pivot orientation of rear connector (C1 ~ C5 available by Special Order – Contact Sales)



Performance Data

- 115V AC motor

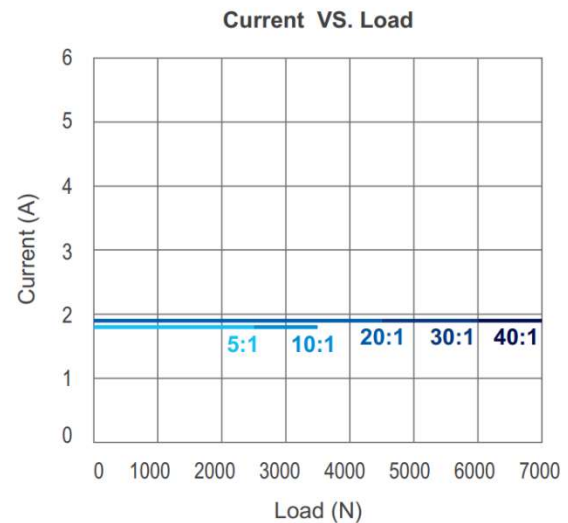
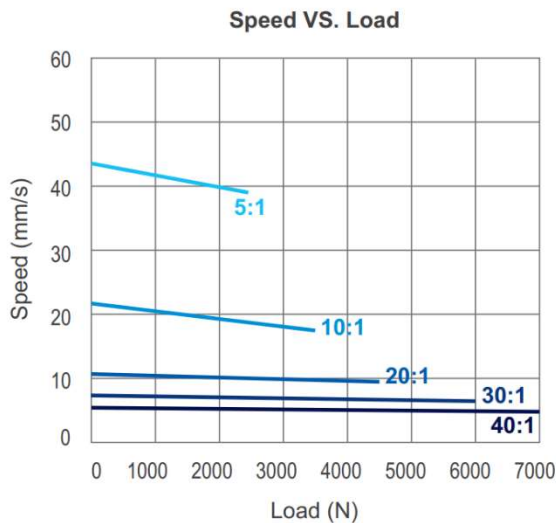
Gear Ratio	Push / Pull Max. (N / lbf)	Typical Speed (mm/s)		Typical Current (A)	
		No Load	Full Load	No Load	Full Load
5:1	2500 / 562	52.8	40.8	2.8	3.5
10:1	3500 / 787	26.5	22.9	2.8	3.1
20:1	4500 / 1012	13.1	11.8	2.7	2.7
30:1	6000 / 1349	8.7	7.9	2.7	2.7
40:1	7000 / 1574	6.6	6.0	2.7	2.7



Performance Data (cont.)

- 230V AC motor

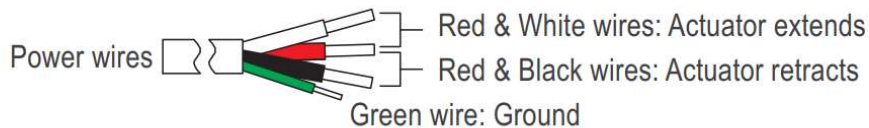
Gear Ratio	Push / Pull Max. (N / lbf)	Typical Speed (mm/s)		Typical Current (A)	
		No Load	Full Load	No Load	Full Load
5:1	2500 / 562	43.5	29.0	1.8	1.8
10:1	3500 / 787	21.8	17.5	1.8	1.8
20:1	4500 / 1012	10.8	9.3	1.9	1.9
30:1	6000 / 1349	7.2	6.3	1.9	1.9
40:1	7000 / 1574	5.4	4.9	1.9	1.9



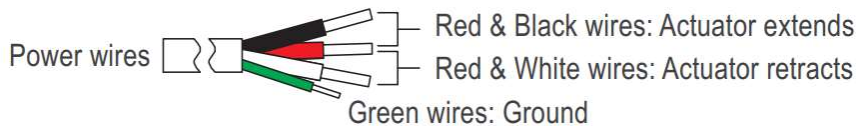
Power Wires

1. Standard type or with Potentiometer

- Gear Ratio: 5:1 / 10:1 / 20:1

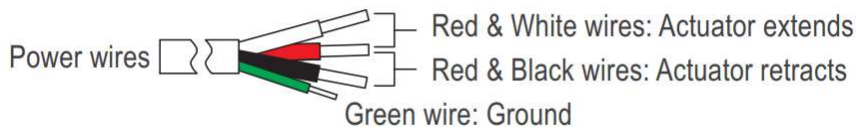


- Gear Ratio: 30:1 / 40:1



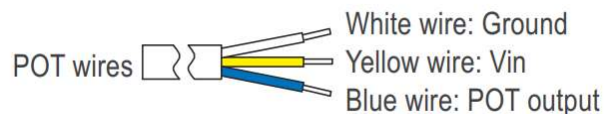
2. With Limit Switches or with Limit Switches *and* Potentiometer

- Gear Ratio: 5:1 / 10:1 / 20:1 / 30:1 / 40:1

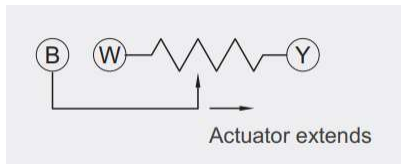


Potentiometer wires and specifications (Option)

With Potentiometer for absolute positioning feedback:



- Potentiometer specification: 10K ohm, 10 turns. Tolerance $\pm 5\%$
- Output voltage: When a constant voltage is applied across the potentiometer, the output voltage between blue and white wires increases linearly when the actuator extends, and decreases when it retracts.



- There are different resolutions according to the stroke length:

Stroke Length (mm)	Resistance Range
102 (4")	300Ω ~ 8.1KΩ (±300Ω)
153 (6")	300Ω ~ 8.7KΩ (±300Ω)
203 (8")	300Ω ~ 9.2KΩ (±300Ω)
254 (10")	300Ω ~ 7.4KΩ (±300Ω)
305 (12")	300Ω ~ 8.8KΩ (±300Ω)
457 (18")	300Ω ~ 9.4KΩ (±300Ω)
610 (24")	100Ω ~ 9.9KΩ (±100Ω)

Certifications

The GF20 actuator is compliant with the following regulations, in terms of the essential conformity requirements of EMC Directive of 2014/30/EU.

Emission	Immunity
EN IEC 61000-6-3:2021	EN IEC 61000-6-1:2019
EN IEC 61000-3-2:2019+A1:2021	IEC 61000-4-2:2008
EN 61000-3-3:2013+A1:2019	IEC 61000-4-3:2020
	IEC 61000-4-4:2012
	IEC 61000-4-5:2017
	IEC 61000-4-6:2013
	IEC 61000-4-8:2009
	IEC 61000-4-11:2020

Terms of Use

Determination of product suitability for a specific application is the responsibility of the user. Due to continuing product improvements, all products are subject to change without prior notice. Concentric International reserves the right to discontinue the sale of any product at any time.

Ordering Key

		GF20 - xx xx xx - x - xx					
<u>Model Series</u>							
<u>Input Voltage</u>							
01	115V AC / 60Hz						
02	230V AC / 50Hz						
<u>Gear Ratio</u>							
05	5:1						
10	10:1						
20	20:1						
30	30:1						
	40	40:1					
<u>Stroke Length</u>							
04	4 inches / 102mm						
06	6 inches / 153mm						
08	8 inches / 203mm						
10	10 inches / 254mm						
12	12 inches / 305mm						
18	18 inches / 457mm						
24	24 inches / 610mm						
<u>Options</u>							
1	Limit Switches						
2	Potentiometer Feedback						
3	Limit Switches and Potentiometer Feedback						
<u>IP Rating</u>							
65	IP65						
69	IP69K (Static, non-action)						

Note: Some combinations may not be available.