

## Report calculated on Test Bench Results

Motor type: **ORBIT 15-37-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

### Measuring Parameter

Voltage: **25.0 [V]**

Throttle setting: 100%

### Calculated Motor Constants

nl: 2,852.2 [RPM]    lo: 3.9 [A]    kv: 114.8 [RPM/V]    kn: -4.35 [RPM/A]    kT: 8.50 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
24.9	30.0	2,738.5	747.0	636.6	222.0	85.23
24.9	34.0	2,721.1	846.6	729.5	256.0	86.17
24.9	38.0	2,703.7	946.2	821.1	290.0	86.78
24.9	42.0	2,686.3	1,045.8	911.4	324.0	87.15
24.9	46.0	2,668.9	1,145.4	1,000.6	358.0	87.35
24.9	50.0	2,651.5	1,245.0	1,088.4	392.0	87.43
24.9	54.0	2,634.1	1,344.6	1,175.1	426.0	87.39
24.9	58.0	2,616.7	1,444.2	1,260.5	460.0	87.28
24.9	62.0	2,599.3	1,543.8	1,344.7	494.0	87.10
24.9	66.0	2,581.9	1,643.4	1,427.6	528.0	86.87
24.9	70.0	2,564.4	1,743.0	1,509.2	562.0	86.59
24.9	74.0	2,547.0	1,842.6	1,589.7	596.0	86.27
24.9	78.0	2,529.6	1,942.2	1,668.9	630.0	85.93
24.8	82.0	2,512.2	2,033.6	1,746.8	664.0	85.90
24.8	86.0	2,494.8	2,132.8	1,823.6	698.0	85.50
24.8	90.0	2,477.4	2,232.0	1,899.0	732.0	85.08
24.8	94.0	2,460.0	2,331.2	1,973.3	766.0	84.65
24.8	98.0	2,442.6	2,430.4	2,046.3	800.0	84.20
24.8	102.0	2,425.2	2,529.6	2,118.1	834.0	83.73
24.8	106.0	2,407.8	2,628.8	2,188.6	868.0	83.26
24.8	110.0	2,390.4	2,728.0	2,257.9	902.0	82.77
24.8	114.0	2,373.0	2,827.2	2,326.0	936.0	82.27
24.8	118.0	2,355.5	2,926.4	2,392.7	970.0	81.76
24.8	122.0	2,338.1	3,025.6	2,458.2	1,004.0	81.25
24.8	126.0	2,320.7	3,124.8	2,522.6	1,038.0	80.73
24.8	130.0	2,303.3	3,224.0	2,585.7	1,072.0	80.20

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
24.7	134.0	2,285.9	3,309.8	2,647.5	1,106.0	79.99
24.7	138.0	2,268.5	3,408.6	2,708.1	1,140.0	79.45
24.7	142.0	2,251.1	3,507.4	2,767.5	1,174.0	78.91
24.7	146.0	2,233.7	3,606.2	2,825.7	1,208.0	78.36
24.7	150.0	2,216.3	3,705.0	2,882.6	1,242.0	77.80
24.7	154.0	2,198.9	3,803.8	2,938.2	1,276.0	77.24
24.7	158.0	2,181.5	3,902.6	2,992.6	1,310.0	76.68
24.7	162.0	2,164.1	4,001.4	3,045.8	1,344.0	76.12
24.7	166.0	2,146.7	4,100.2	3,097.8	1,378.0	75.55
24.7	170.0	2,129.2	4,199.0	3,148.3	1,412.0	74.98
24.7	174.0	2,111.8	4,297.8	3,197.8	1,446.0	74.41
24.7	178.0	2,094.4	4,396.6	3,246.0	1,480.0	73.83
24.7	182.0	2,077.0	4,495.4	3,293.0	1,514.0	73.25
24.6	186.0	2,059.6	4,575.6	3,338.7	1,548.0	72.97
24.6	190.0	2,042.2	4,674.0	3,383.5	1,582.1	72.39
24.6	194.0	2,024.8	4,772.4	3,426.7	1,616.1	71.80
24.6	198.0	2,007.4	4,870.8	3,468.7	1,650.1	71.22
24.6	202.0	1,990.0	4,969.2	3,509.5	1,684.1	70.63
24.6	206.0	1,972.6	5,067.6	3,549.1	1,718.1	70.03
24.6	210.0	1,955.2	5,166.0	3,587.4	1,752.1	69.44
24.6	214.0	1,937.8	5,264.4	3,624.5	1,786.1	68.85
24.6	218.0	1,920.3	5,362.8	3,660.1	1,820.1	68.25
24.6	222.0	1,902.9	5,461.2	3,694.7	1,854.1	67.65
24.6	226.0	1,885.5	5,559.6	3,728.0	1,888.1	67.06
24.6	230.0	1,868.1	5,658.0	3,760.1	1,922.1	66.46
24.6	234.0	1,850.7	5,756.4	3,791.0	1,956.1	65.86
24.5	238.0	1,833.3	5,831.0	3,820.6	1,990.1	65.52
24.5	242.0	1,815.9	5,929.0	3,849.0	2,024.1	64.92

nl = rpm with no load

lo = current with no load

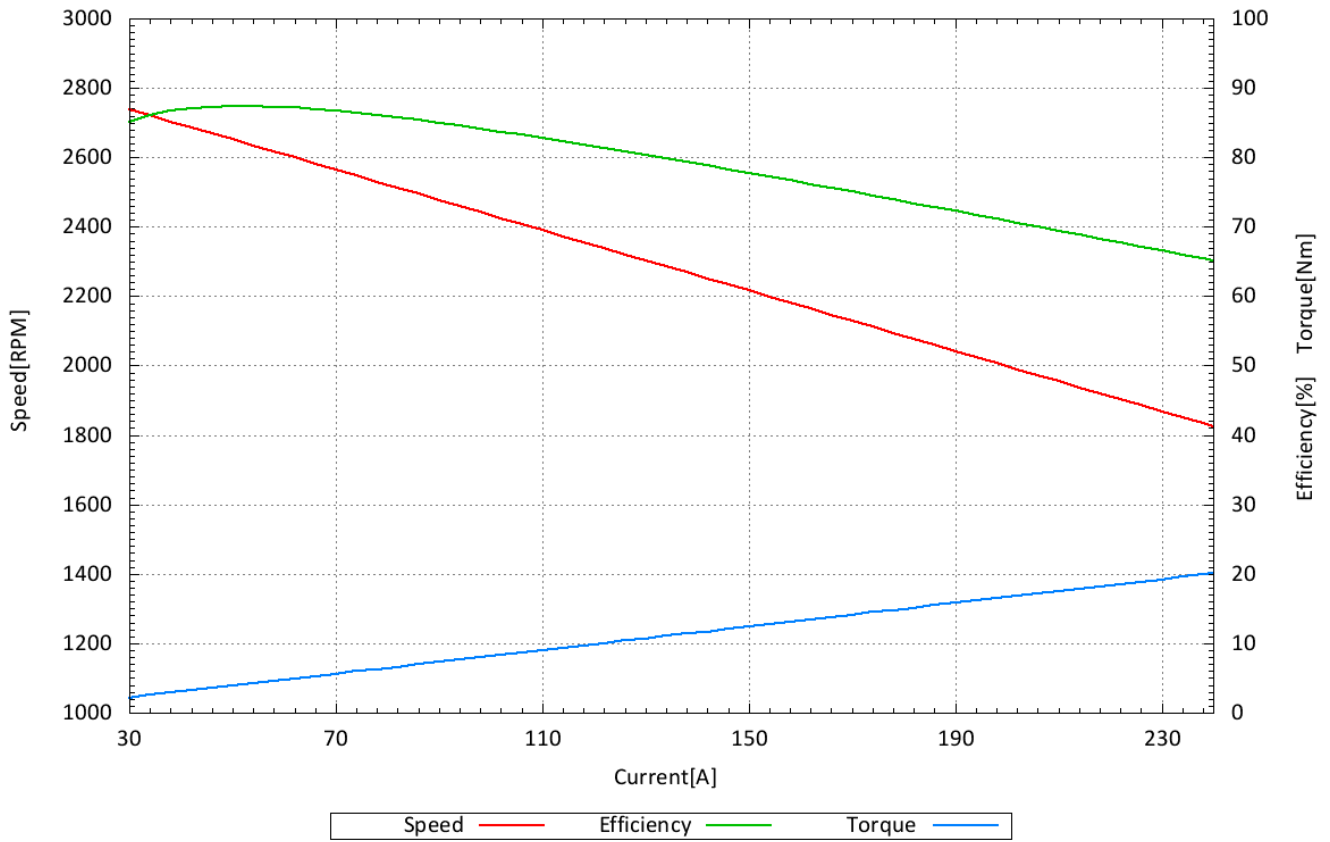
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

<sup>1</sup> incl. Controller

HP940\_37\_B8\_P20\_25V\_14032024



## Report calculated on Test Bench Results

Motor type: **ORBIT 15-37-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

### Measuring Parameter

Voltage: **30.0 [V]**

Throttle setting: 100%

### Calculated Motor Constants

nl: 3,423.4 [RPM]    lo: 4.1 [A]    kv: 114.8 [RPM/V]    kn: -4.93 [RPM/A]    kT: 8.61 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
29.9	30.0	3,295.7	897.0	769.3	222.9	85.76
29.9	34.0	3,276.0	1,016.6	883.0	257.4	86.86
29.9	38.0	3,256.3	1,136.2	995.0	291.8	87.58
29.8	42.0	3,236.6	1,251.6	1,105.9	326.3	88.36
29.8	46.0	3,216.8	1,370.8	1,215.1	360.7	88.64
29.8	50.0	3,197.1	1,490.0	1,323.1	395.2	88.80
29.8	54.0	3,177.4	1,609.2	1,429.4	429.6	88.83
29.8	58.0	3,157.7	1,728.4	1,534.7	464.1	88.79
29.8	62.0	3,137.9	1,847.6	1,638.1	498.5	88.66
29.8	66.0	3,118.2	1,966.8	1,740.4	533.0	88.49
29.7	70.0	3,098.5	2,079.0	1,841.1	567.4	88.56
29.7	74.0	3,078.8	2,197.8	1,940.6	601.9	88.30
29.7	78.0	3,059.1	2,316.6	2,038.4	636.3	87.99
29.7	82.0	3,039.3	2,435.4	2,135.0	670.8	87.66
29.7	86.0	3,019.6	2,554.2	2,229.9	705.2	87.30
29.7	90.0	2,999.9	2,673.0	2,323.8	739.7	86.93
29.7	94.0	2,980.2	2,791.8	2,415.9	774.1	86.53
29.6	98.0	2,960.4	2,900.8	2,506.8	808.6	86.42
29.6	102.0	2,940.7	3,019.2	2,596.0	843.0	85.98
29.6	106.0	2,921.0	3,137.6	2,684.2	877.5	85.55
29.6	110.0	2,901.3	3,256.0	2,770.6	911.9	85.09
29.6	114.0	2,881.5	3,374.4	2,855.8	946.4	84.63
29.6	118.0	2,861.8	3,492.8	2,939.3	980.8	84.15
29.6	122.0	2,842.1	3,611.2	3,021.8	1,015.3	83.68
29.5	126.0	2,822.4	3,717.0	3,102.5	1,049.7	83.47
29.5	130.0	2,802.7	3,835.0	3,182.1	1,084.2	82.98

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
29.5	134.0	2,782.9	3,953.0	3,260.2	1,118.7	82.47
29.5	138.0	2,763.2	4,071.0	3,336.6	1,153.1	81.96
29.5	142.0	2,743.5	4,189.0	3,412.0	1,187.6	81.45
29.5	146.0	2,723.8	4,307.0	3,485.6	1,222.0	80.93
29.4	150.0	2,704.0	4,410.0	3,557.9	1,256.5	80.68
29.4	154.0	2,684.3	4,527.6	3,628.7	1,290.9	80.15
29.4	158.0	2,664.6	4,645.2	3,698.3	1,325.4	79.62
29.4	162.0	2,644.9	4,762.8	3,766.3	1,359.8	79.08
29.4	166.0	2,625.1	4,880.4	3,832.9	1,394.3	78.54
29.4	170.0	2,605.4	4,998.0	3,898.0	1,428.7	77.99
29.4	174.0	2,585.7	5,115.6	3,962.0	1,463.2	77.45
29.3	178.0	2,566.0	5,215.4	4,024.2	1,497.6	77.16
29.3	182.0	2,546.3	5,332.6	4,085.3	1,532.1	76.61
29.3	186.0	2,526.5	5,449.8	4,144.6	1,566.5	76.05
29.3	190.0	2,506.8	5,567.0	4,202.8	1,601.0	75.50
29.3	194.0	2,487.1	5,684.2	4,259.4	1,635.4	74.93
29.3	198.0	2,467.4	5,801.4	4,314.8	1,669.9	74.37
29.3	202.0	2,447.6	5,918.6	4,368.3	1,704.3	73.81
29.2	206.0	2,427.9	6,015.2	4,420.9	1,738.8	73.50
29.2	210.0	2,408.2	6,132.0	4,471.8	1,773.2	72.93
29.2	214.0	2,388.5	6,248.8	4,521.5	1,807.7	72.36
29.2	218.0	2,368.7	6,365.6	4,569.3	1,842.1	71.78
29.2	222.0	2,349.0	6,482.4	4,616.2	1,876.6	71.21
29.2	226.0	2,329.3	6,599.2	4,661.4	1,911.0	70.64
29.2	230.0	2,309.6	6,716.0	4,705.4	1,945.5	70.06
29.1	234.0	2,289.9	6,809.4	4,747.8	1,979.9	69.72
29.1	238.0	2,270.1	6,925.8	4,788.7	2,014.4	69.14
29.1	242.0	2,250.4	7,042.2	4,828.2	2,048.8	68.56

nl = rpm with no load

lo = current with no load

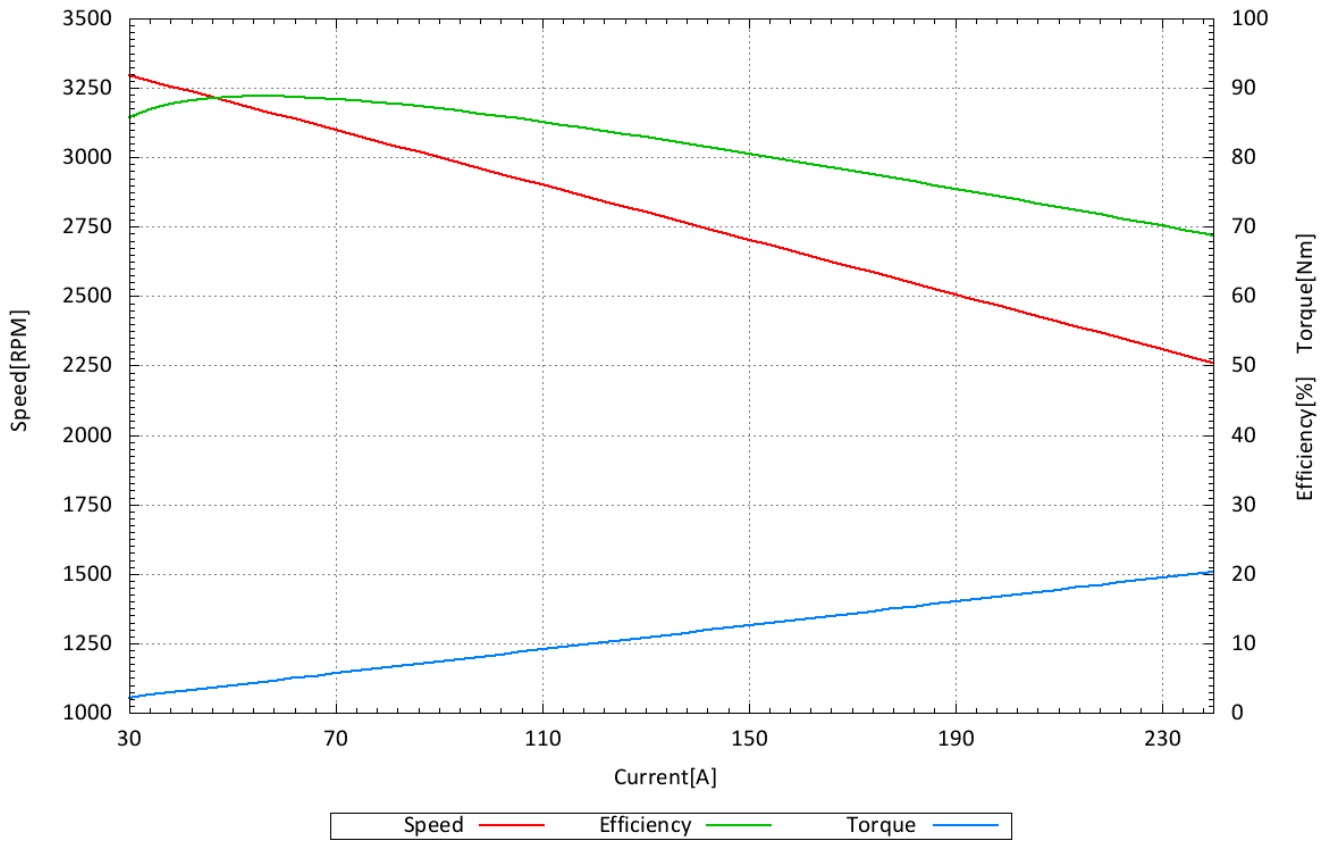
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

<sup>1</sup> incl. Controller

HP940\_37\_B8\_P20\_30V\_14032024



## Report calculated on Test Bench Results

Motor type: **ORBIT 15-37-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

### Measuring Parameter

Voltage: **35.0 [V]**

Throttle setting: 100%

### Calculated Motor Constants

nl: 3,970.3 [RPM]    lo: 5.7 [A]    kv: 114.3 [RPM/V]    kn: -5.52 [RPM/A]    kT: 8.83 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
34.9	30.0	3,835.9	1,047.0	863.2	214.9	82.45
34.9	34.0	3,813.8	1,186.6	999.2	250.2	84.21
34.9	38.0	3,791.7	1,326.2	1,133.6	285.5	85.48
34.9	42.0	3,769.7	1,465.8	1,266.4	320.8	86.40
34.9	46.0	3,747.6	1,605.4	1,397.5	356.1	87.05
34.9	50.0	3,725.5	1,745.0	1,527.0	391.4	87.51
34.8	54.0	3,703.4	1,879.2	1,654.8	426.7	88.06
34.8	58.0	3,681.3	2,018.4	1,781.0	462.0	88.24
34.8	62.0	3,659.2	2,157.6	1,905.6	497.3	88.32
34.8	66.0	3,637.2	2,296.8	2,028.6	532.6	88.32
34.8	70.0	3,615.1	2,436.0	2,149.9	567.9	88.26
34.8	74.0	3,593.0	2,575.2	2,269.6	603.2	88.13
34.8	78.0	3,570.9	2,714.4	2,387.6	638.5	87.96
34.8	82.0	3,548.8	2,853.6	2,504.0	673.8	87.75
34.7	86.0	3,526.8	2,984.2	2,618.9	709.1	87.76
34.7	90.0	3,504.7	3,123.0	2,732.0	744.4	87.48
34.7	94.0	3,482.6	3,261.8	2,843.5	779.7	87.18
34.7	98.0	3,460.5	3,400.6	2,953.4	815.0	86.85
34.7	102.0	3,438.4	3,539.4	3,061.7	850.3	86.50
34.7	106.0	3,416.4	3,678.2	3,168.4	885.6	86.14
34.7	110.0	3,394.3	3,817.0	3,273.3	920.9	85.76
34.7	114.0	3,372.2	3,955.8	3,376.7	956.2	85.36
34.6	118.0	3,350.1	4,082.8	3,478.4	991.5	85.20
34.6	122.0	3,328.0	4,221.2	3,578.8	1,026.9	84.78
34.6	126.0	3,306.0	4,359.6	3,677.4	1,062.2	84.35
34.6	130.0	3,283.9	4,498.0	3,774.2	1,097.5	83.91

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
34.6	134.0	3,261.8	4,636.4	3,869.4	1,132.8	83.46
34.6	138.0	3,239.7	4,774.8	3,962.9	1,168.1	83.00
34.6	142.0	3,217.6	4,913.2	4,054.8	1,203.4	82.53
34.6	146.0	3,195.6	5,051.6	4,145.2	1,238.7	82.06
34.6	150.0	3,173.5	5,190.0	4,233.9	1,274.0	81.58
34.5	154.0	3,151.4	5,313.0	4,320.9	1,309.3	81.33
34.5	158.0	3,129.3	5,451.0	4,406.2	1,344.6	80.83
34.5	162.0	3,107.2	5,589.0	4,490.0	1,379.9	80.34
34.5	166.0	3,085.2	5,727.0	4,572.2	1,415.2	79.84
34.5	170.0	3,063.1	5,865.0	4,652.7	1,450.5	79.33
34.5	174.0	3,041.0	6,003.0	4,731.6	1,485.8	78.82
34.5	178.0	3,018.9	6,141.0	4,808.8	1,521.1	78.31
34.5	182.0	2,996.8	6,279.0	4,884.4	1,556.4	77.79
34.4	186.0	2,974.8	6,398.4	4,958.5	1,591.7	77.50
34.4	190.0	2,952.7	6,536.0	5,030.8	1,627.0	76.97
34.4	194.0	2,930.6	6,673.6	5,101.5	1,662.3	76.44
34.4	198.0	2,908.5	6,811.2	5,170.5	1,697.6	75.91
34.4	202.0	2,886.4	6,948.8	5,237.9	1,732.9	75.38
34.4	206.0	2,864.4	7,086.4	5,303.9	1,768.2	74.85
34.4	210.0	2,842.3	7,224.0	5,368.0	1,803.5	74.31
34.4	214.0	2,820.2	7,361.6	5,430.5	1,838.8	73.77
34.3	218.0	2,798.1	7,477.4	5,491.4	1,874.1	73.44
34.3	222.0	2,776.0	7,614.6	5,550.7	1,909.4	72.90
34.3	226.0	2,754.0	7,751.8	5,608.5	1,944.7	72.35
34.3	230.0	2,731.9	7,889.0	5,664.7	1,980.1	71.81
34.3	234.0	2,709.8	8,026.2	5,719.1	2,015.4	71.26
34.3	238.0	2,687.7	8,163.4	5,771.8	2,050.7	70.70
34.3	242.0	2,665.6	8,300.6	5,822.9	2,086.0	70.15

nl = rpm with no load

lo = current with no load

kV = specific rpm

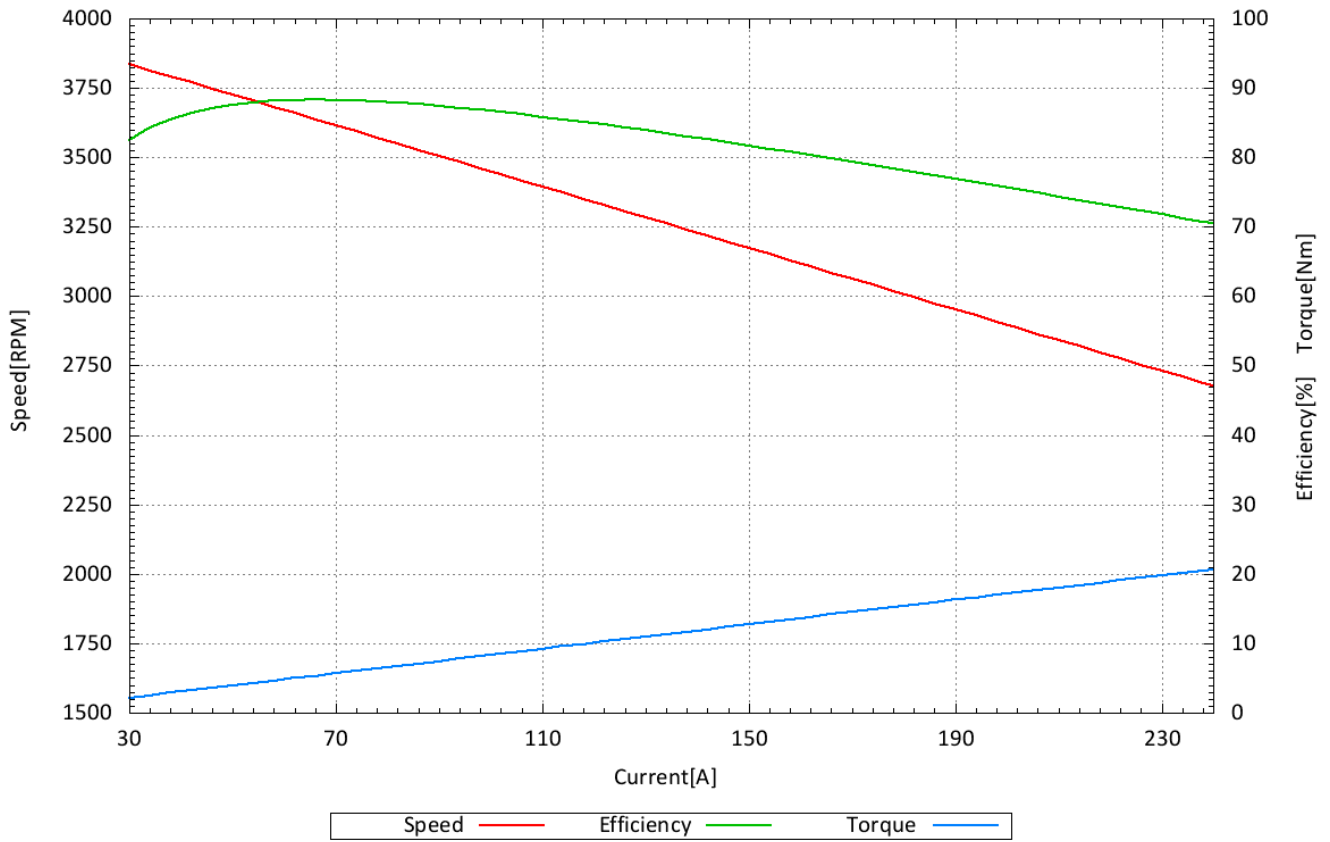
kn = rpm drop per Amp

kT = torque constant

<sup>1</sup> incl. Controller



HP940\_37\_B8\_P20\_35V\_14032024



## Report calculated on Test Bench Results

Motor type: **ORBIT 15-37-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

### Measuring Parameter

Voltage: **40.0 [V]**

Throttle setting: 100%

### Calculated Motor Constants

nl: 4,538.3 [RPM]    lo: 5.9 [A]            kv: 114.3 [RPM/V]    kn: -5.90 [RPM/A]    kT: 8.83 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
39.9	30.0	4,396.1	1,197.0	979.2	212.7	81.80
39.9	34.0	4,372.5	1,356.6	1,135.6	248.0	83.71
39.9	38.0	4,348.9	1,516.2	1,290.2	283.3	85.09
39.9	42.0	4,325.3	1,675.8	1,443.1	318.6	86.11
39.9	46.0	4,301.7	1,835.4	1,594.2	353.9	86.86
39.9	50.0	4,278.1	1,995.0	1,743.6	389.2	87.40
39.8	54.0	4,254.5	2,149.2	1,891.3	424.5	88.00
39.8	58.0	4,230.9	2,308.4	2,037.2	459.8	88.25
39.8	62.0	4,207.3	2,467.6	2,181.3	495.1	88.40
39.8	66.0	4,183.7	2,626.8	2,323.8	530.4	88.46
39.8	70.0	4,160.1	2,786.0	2,464.4	565.7	88.46
39.8	74.0	4,136.4	2,945.2	2,603.3	601.0	88.39
39.8	78.0	4,112.8	3,104.4	2,740.5	636.3	88.28
39.8	82.0	4,089.2	3,263.6	2,875.9	671.6	88.12
39.7	86.0	4,065.6	3,414.2	3,009.6	706.9	88.15
39.7	90.0	4,042.0	3,573.0	3,142.0	742.3	87.94
39.7	94.0	4,018.4	3,731.8	3,272.2	777.6	87.68
39.7	98.0	3,994.8	3,890.6	3,400.6	812.9	87.41
39.7	102.0	3,971.2	4,049.4	3,527.4	848.2	87.11
39.7	106.0	3,947.6	4,208.2	3,652.3	883.5	86.79
39.7	110.0	3,924.0	4,367.0	3,775.5	918.8	86.46
39.7	114.0	3,900.4	4,525.8	3,897.0	954.1	86.11
39.6	118.0	3,876.8	4,672.8	4,016.7	989.4	85.96
39.6	122.0	3,853.2	4,831.2	4,134.7	1,024.7	85.58
39.6	126.0	3,829.6	4,989.6	4,251.0	1,060.0	85.20
39.6	130.0	3,806.0	5,148.0	4,365.5	1,095.3	84.80

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
39.6	134.0	3,782.4	5,306.4	4,478.2	1,130.6	84.39
39.6	138.0	3,758.8	5,464.8	4,589.2	1,165.9	83.98
39.6	142.0	3,735.2	5,623.2	4,698.5	1,201.2	83.56
39.6	146.0	3,711.6	5,781.6	4,806.0	1,236.5	83.13
39.6	150.0	3,688.0	5,940.0	4,911.8	1,271.8	82.69
39.5	154.0	3,664.3	6,083.0	5,015.7	1,307.1	82.45
39.5	158.0	3,640.7	6,241.0	5,117.9	1,342.4	82.01
39.5	162.0	3,617.1	6,399.0	5,218.5	1,377.7	81.55
39.5	166.0	3,593.5	6,557.0	5,317.3	1,413.0	81.09
39.5	170.0	3,569.9	6,715.0	5,414.3	1,448.3	80.63
39.5	174.0	3,546.3	6,873.0	5,509.6	1,483.6	80.16
39.5	178.0	3,522.7	7,031.0	5,603.2	1,518.9	79.69
39.5	182.0	3,499.1	7,189.0	5,695.0	1,554.2	79.22
39.4	186.0	3,475.5	7,328.4	5,785.0	1,589.5	78.94
39.4	190.0	3,451.9	7,486.0	5,873.4	1,624.8	78.46
39.4	194.0	3,428.3	7,643.6	5,959.9	1,660.1	77.97
39.4	198.0	3,404.7	7,801.2	6,045.1	1,695.5	77.49
39.4	202.0	3,381.1	7,958.8	6,128.2	1,730.8	77.00
39.4	206.0	3,357.5	8,116.4	6,209.5	1,766.1	76.51
39.4	210.0	3,333.9	8,274.0	6,289.1	1,801.4	76.01
39.4	214.0	3,310.3	8,431.6	6,367.0	1,836.7	75.51
39.3	218.0	3,286.7	8,567.4	6,443.1	1,872.0	75.20
39.3	222.0	3,263.1	8,724.6	6,517.5	1,907.3	74.70
39.3	226.0	3,239.5	8,881.8	6,590.1	1,942.6	74.20
39.3	230.0	3,215.9	9,039.0	6,660.9	1,977.9	73.69
39.3	234.0	3,192.3	9,196.2	6,730.1	2,013.2	73.18
39.3	238.0	3,168.6	9,353.4	6,797.2	2,048.5	72.67
39.3	242.0	3,145.0	9,510.6	6,862.9	2,083.8	72.16

nl = rpm with no load

lo = current with no load

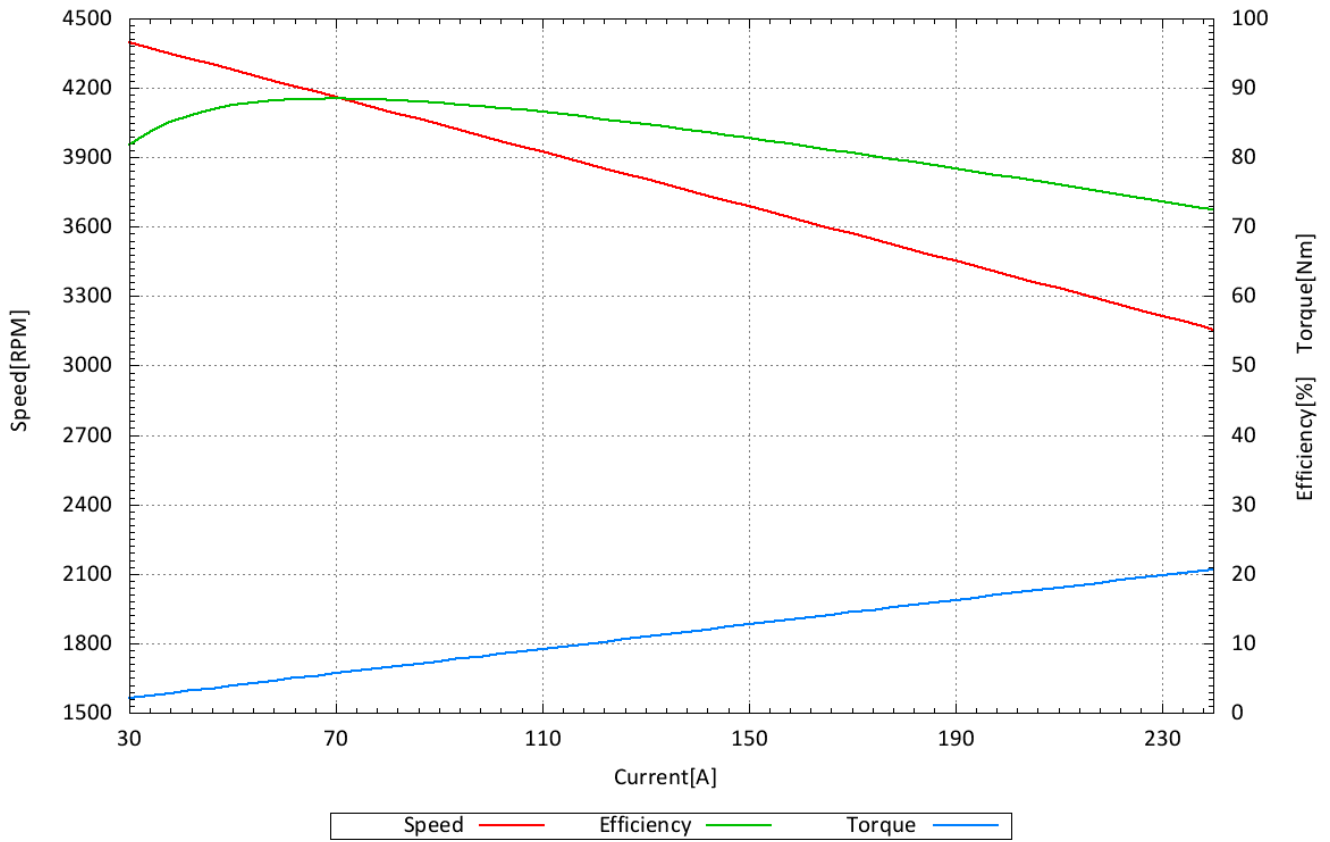
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

<sup>1</sup> incl. Controller

HP940\_37\_B8\_P20\_40V\_14032024



## Report calculated on Test Bench Results

Motor type: **ORBIT 15-37-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

### Measuring Parameter

Voltage: **45.0 [V]**

Throttle setting: 100%

### Calculated Motor Constants

nl: 5,082.4 [RPM]    lo: 6.9 [A]    kv: 113.9 [RPM/V]    kn: -6.33 [RPM/A]    kT: 8.93 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
44.9	30.0	4,936.0	1,347.0	1,067.4	206.5	79.24
44.9	34.0	4,910.7	1,526.6	1,245.5	242.2	81.59
44.9	38.0	4,885.4	1,706.2	1,421.7	277.9	83.33
44.9	42.0	4,860.0	1,885.8	1,596.0	313.6	84.63
44.9	46.0	4,834.7	2,065.4	1,768.5	349.3	85.62
44.9	50.0	4,809.4	2,245.0	1,939.0	385.0	86.37
44.9	54.0	4,784.1	2,424.6	2,107.7	420.7	86.93
44.9	58.0	4,758.8	2,604.2	2,274.4	456.4	87.34
44.8	62.0	4,733.4	2,777.6	2,439.7	492.2	87.84
44.8	66.0	4,708.1	2,956.8	2,602.7	527.9	88.02
44.8	70.0	4,682.8	3,136.0	2,763.8	563.6	88.13
44.8	74.0	4,657.5	3,315.2	2,923.0	599.3	88.17
44.8	78.0	4,632.2	3,494.4	3,080.3	635.0	88.15
44.8	82.0	4,606.8	3,673.6	3,235.6	670.7	88.08
44.8	86.0	4,581.5	3,852.8	3,389.1	706.4	87.97
44.8	90.0	4,556.2	4,032.0	3,540.7	742.1	87.82
44.8	94.0	4,530.9	4,211.2	3,690.5	777.8	87.63
44.8	98.0	4,505.6	4,390.4	3,838.8	813.6	87.44
44.7	102.0	4,480.2	4,559.4	3,984.6	849.3	87.39
44.7	106.0	4,454.9	4,738.2	4,128.7	885.0	87.14
44.7	110.0	4,429.6	4,917.0	4,270.8	920.7	86.86
44.7	114.0	4,404.3	5,095.8	4,411.1	956.4	86.56
44.7	118.0	4,379.0	5,274.6	4,549.5	992.1	86.25
44.7	122.0	4,353.6	5,453.4	4,685.8	1,027.8	85.92
44.7	126.0	4,328.3	5,632.2	4,820.4	1,063.5	85.59
44.7	130.0	4,303.0	5,811.0	4,953.5	1,099.3	85.24

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
44.7	134.0	4,277.7	5,989.8	5,084.3	1,135.0	84.88
44.7	138.0	4,252.4	6,168.6	5,213.2	1,170.7	84.51
44.6	142.0	4,227.0	6,333.2	5,340.1	1,206.4	84.32
44.6	146.0	4,201.7	6,511.6	5,465.3	1,242.1	83.93
44.6	150.0	4,176.4	6,690.0	5,588.5	1,277.8	83.53
44.6	154.0	4,151.1	6,868.4	5,709.8	1,313.5	83.13
44.6	158.0	4,125.8	7,046.8	5,829.3	1,349.2	82.72
44.6	162.0	4,100.4	7,225.2	5,947.1	1,385.0	82.31
44.6	166.0	4,075.1	7,403.6	6,062.7	1,420.7	81.89
44.6	170.0	4,049.8	7,582.0	6,176.5	1,456.4	81.46
44.6	174.0	4,024.5	7,760.4	6,288.4	1,492.1	81.03
44.6	178.0	3,999.2	7,938.8	6,398.4	1,527.8	80.60
44.5	182.0	3,973.8	8,099.0	6,506.3	1,563.5	80.33
44.5	186.0	3,948.5	8,277.0	6,612.5	1,599.2	79.89
44.5	190.0	3,923.2	8,455.0	6,716.8	1,634.9	79.44
44.5	194.0	3,897.9	8,633.0	6,819.6	1,670.7	78.99
44.5	198.0	3,872.5	8,811.0	6,919.9	1,706.4	78.54
44.5	202.0	3,847.2	8,989.0	7,018.5	1,742.1	78.08
44.5	206.0	3,821.9	9,167.0	7,115.3	1,777.8	77.62
44.5	210.0	3,796.6	9,345.0	7,210.1	1,813.5	77.15
44.5	214.0	3,771.3	9,523.0	7,303.0	1,849.2	76.69
44.4	218.0	3,745.9	9,679.2	7,393.9	1,884.9	76.39
44.4	222.0	3,720.6	9,856.8	7,483.0	1,920.6	75.92
44.4	226.0	3,695.3	10,034.4	7,570.3	1,956.3	75.44
44.4	230.0	3,670.0	10,212.0	7,656.1	1,992.1	74.97
44.4	234.0	3,644.7	10,389.6	7,739.5	2,027.8	74.49
44.4	238.0	3,619.3	10,567.2	7,820.9	2,063.5	74.01
44.4	242.0	3,594.0	10,744.8	7,900.6	2,099.2	73.53

nl = rpm with no load

lo = current with no load

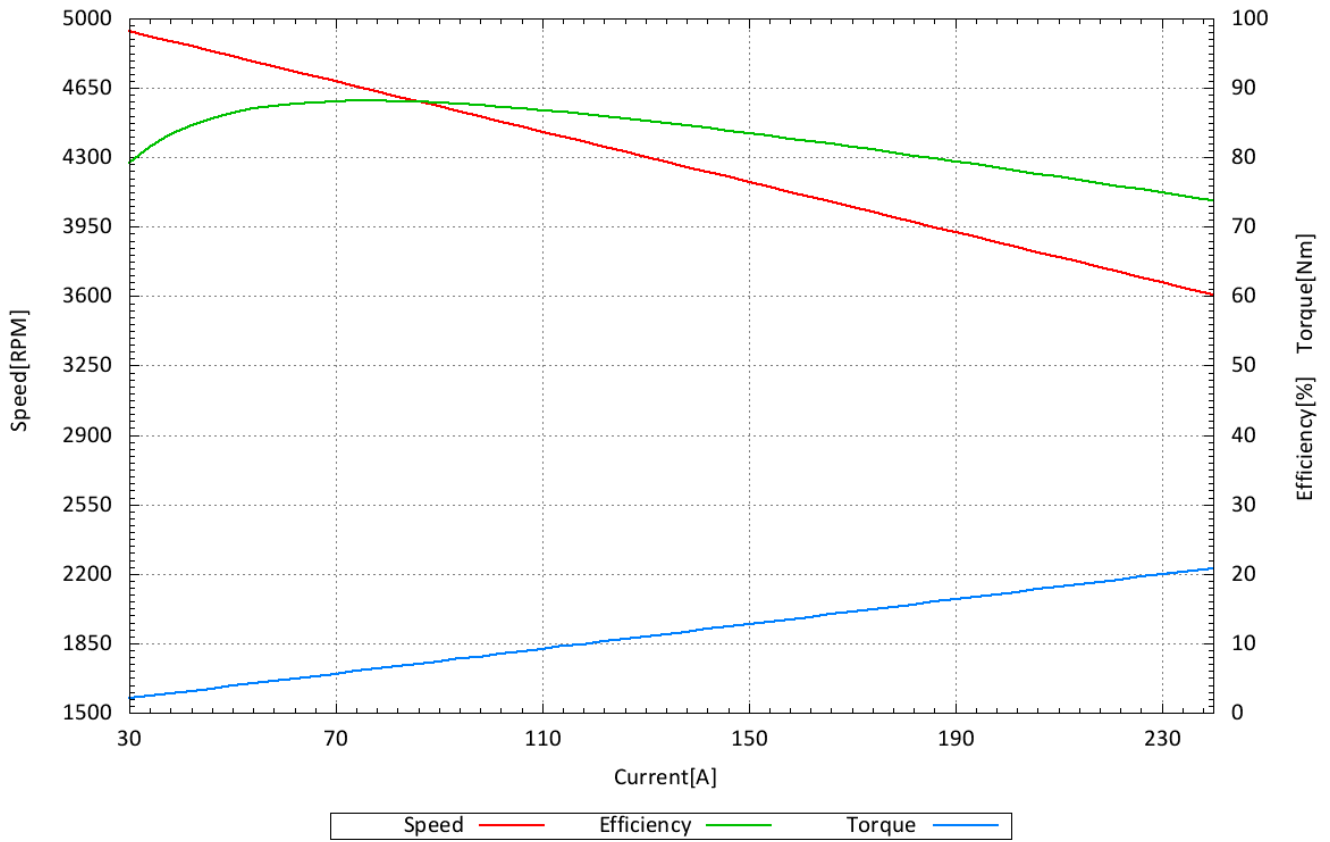
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

<sup>1</sup> incl. Controller

HP940\_37\_B8\_P20\_45V\_14032024



## Report calculated on Test Bench Results

Motor type: **ORBIT 15-37-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

### Measuring Parameter

Voltage: **50.0 [V]**

Throttle setting: 100%

### Calculated Motor Constants

nl: 5,664.4 [RPM]    lo: 6.8 [A]    kv: 114.2 [RPM/V]    kn: -6.80 [RPM/A]    kT: 8.98 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
49.9	30.0	5,506.3	1,497.0	1,204.6	208.9	80.46
49.9	34.0	5,479.1	1,696.6	1,404.6	244.8	82.79
49.9	38.0	5,451.9	1,896.2	1,602.6	280.7	84.52
49.9	42.0	5,424.7	2,095.8	1,799.1	316.7	85.84
49.9	46.0	5,397.5	2,295.4	1,993.0	352.6	86.83
49.9	50.0	5,370.3	2,495.0	2,184.8	388.5	87.57
49.9	54.0	5,343.1	2,694.6	2,375.2	424.5	88.15
49.9	58.0	5,315.9	2,894.2	2,563.0	460.4	88.55
49.9	62.0	5,288.7	3,093.8	2,749.2	496.4	88.86
49.9	66.0	5,261.5	3,293.4	2,932.9	532.3	89.05
49.9	70.0	5,234.3	3,493.0	3,114.5	568.2	89.16
49.9	74.0	5,207.1	3,692.6	3,294.6	604.2	89.22
49.9	78.0	5,179.9	3,892.2	3,472.1	640.1	89.21
49.9	82.0	5,152.7	4,091.8	3,648.2	676.1	89.16
49.8	86.0	5,125.5	4,282.8	3,821.6	712.0	89.23
49.8	90.0	5,098.3	4,482.0	3,993.0	747.9	89.09
49.8	94.0	5,071.1	4,681.2	4,162.9	783.9	88.93
49.8	98.0	5,043.9	4,880.4	4,330.2	819.8	88.73
49.8	102.0	5,016.7	5,079.6	4,495.4	855.7	88.50
49.8	106.0	4,989.5	5,278.8	4,659.1	891.7	88.26
49.8	110.0	4,962.3	5,478.0	4,820.3	927.6	87.99
49.8	114.0	4,935.1	5,677.2	4,979.9	963.6	87.72
49.8	118.0	4,907.9	5,876.4	5,137.0	999.5	87.42
49.8	122.0	4,880.7	6,075.6	5,292.0	1,035.4	87.10
49.8	126.0	4,853.5	6,274.8	5,445.5	1,071.4	86.78
49.8	130.0	4,826.3	6,474.0	5,596.4	1,107.3	86.44



Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
49.8	134.0	4,799.1	6,673.2	5,745.8	1,143.3	86.10
49.8	138.0	4,771.9	6,872.4	5,892.6	1,179.2	85.74
49.7	142.0	4,744.7	7,057.4	6,037.4	1,215.1	85.55
49.7	146.0	4,717.5	7,256.2	6,180.6	1,251.1	85.18
49.7	150.0	4,690.3	7,455.0	6,321.3	1,287.0	84.79
49.7	154.0	4,663.1	7,653.8	6,460.0	1,322.9	84.40
49.7	158.0	4,635.9	7,852.6	6,597.1	1,358.9	84.01
49.7	162.0	4,608.7	8,051.4	6,731.6	1,394.8	83.61
49.7	166.0	4,581.5	8,250.2	6,864.6	1,430.8	83.21
49.7	170.0	4,554.3	8,449.0	6,995.1	1,466.7	82.79
49.7	174.0	4,527.1	8,647.8	7,123.5	1,502.6	82.37
49.7	178.0	4,499.9	8,846.6	7,250.3	1,538.6	81.96
49.7	182.0	4,472.7	9,045.4	7,374.6	1,574.5	81.53
49.7	186.0	4,445.5	9,244.2	7,496.9	1,610.4	81.10
49.7	190.0	4,418.3	9,443.0	7,617.6	1,646.4	80.67
49.6	194.0	4,391.1	9,622.4	7,735.8	1,682.3	80.39
49.6	198.0	4,363.9	9,820.8	7,852.4	1,718.3	79.96
49.6	202.0	4,336.7	10,019.2	7,966.5	1,754.2	79.51
49.6	206.0	4,309.5	10,217.6	8,078.5	1,790.1	79.06
49.6	210.0	4,282.3	10,416.0	8,189.0	1,826.1	78.62
49.6	214.0	4,255.1	10,614.4	8,296.9	1,862.0	78.17
49.6	218.0	4,227.9	10,812.8	8,403.3	1,898.0	77.72
49.6	222.0	4,200.7	11,011.2	8,507.2	1,933.9	77.26
49.6	226.0	4,173.5	11,209.6	8,609.0	1,969.8	76.80
49.6	230.0	4,146.2	11,408.0	8,709.0	2,005.8	76.34
49.6	234.0	4,119.0	11,606.4	8,806.7	2,041.7	75.88
49.6	238.0	4,091.8	11,804.8	8,902.4	2,077.6	75.41
49.6	242.0	4,064.6	12,003.2	8,996.4	2,113.6	74.95

nl = rpm with no load

lo = current with no load

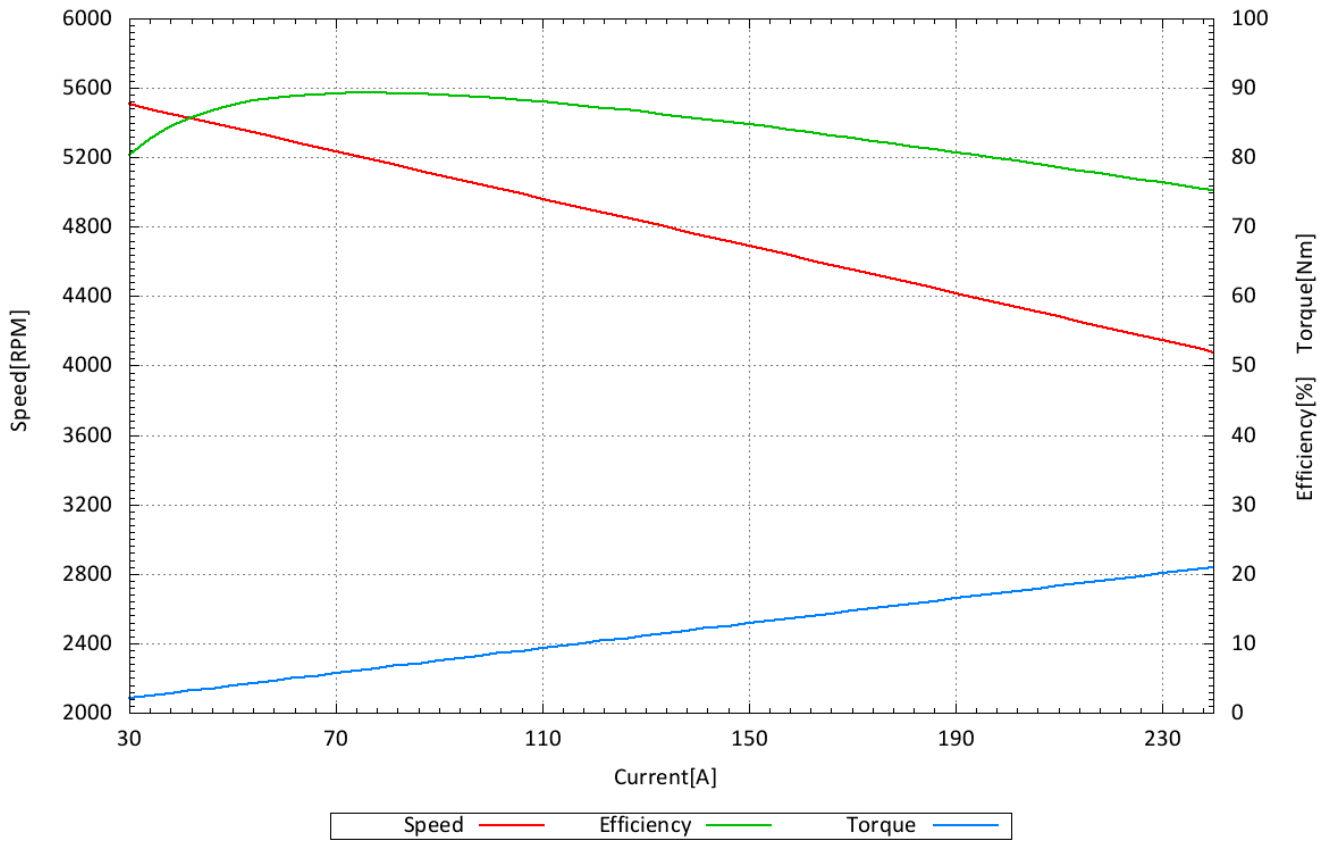
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

<sup>1</sup> incl. Controller

HP940\_37\_B8\_P20\_50V\_14032024



## Report calculated on Test Bench Results

Motor type: **ORBIT 15-37-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

### Measuring Parameter

Voltage: **55.0 [V]**

Throttle setting: 100%

### Calculated Motor Constants

nl: 6,189.1 [RPM]    lo: 6.7 [A]    kv: 113.4 [RPM/V]    kn: -6.79 [RPM/A]    kT: 8.94 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
54.9	30.0	6,030.7	1,647.0	1,316.1	208.4	79.91
54.9	34.0	6,003.6	1,866.6	1,535.3	244.2	82.25
54.9	38.0	5,976.4	2,086.2	1,751.7	279.9	83.97
54.9	42.0	5,949.2	2,305.8	1,966.8	315.7	85.30
54.9	46.0	5,922.0	2,525.4	2,179.2	351.4	86.29
54.9	50.0	5,894.9	2,745.0	2,390.2	387.2	87.08
54.9	54.0	5,867.7	2,964.6	2,599.2	423.0	87.67
54.8	58.0	5,840.5	3,178.4	2,805.5	458.7	88.27
54.8	62.0	5,813.3	3,397.6	3,010.4	494.5	88.60
54.8	66.0	5,786.2	3,616.8	3,212.6	530.2	88.83
54.8	70.0	5,759.0	3,836.0	3,413.4	566.0	88.98
54.8	74.0	5,731.8	4,055.2	3,612.2	601.8	89.08
54.8	78.0	5,704.6	4,274.4	3,808.3	637.5	89.10
54.8	82.0	5,677.4	4,493.6	4,003.0	673.3	89.08
54.8	86.0	5,650.3	4,712.8	4,195.7	709.1	89.03
54.8	90.0	5,623.1	4,932.0	4,385.8	744.8	88.92
54.7	94.0	5,595.9	5,141.8	4,574.3	780.6	88.96
54.7	98.0	5,568.7	5,360.6	4,760.3	816.3	88.80
54.7	102.0	5,541.6	5,579.4	4,944.9	852.1	88.63
54.7	106.0	5,514.4	5,798.2	5,127.3	887.9	88.43
54.7	110.0	5,487.2	6,017.0	5,307.2	923.6	88.20
54.7	114.0	5,460.0	6,235.8	5,485.6	959.4	87.97
54.7	118.0	5,432.9	6,454.6	5,661.4	995.1	87.71
54.7	122.0	5,405.7	6,673.4	5,835.8	1,030.9	87.45
54.7	126.0	5,378.5	6,892.2	6,008.0	1,066.7	87.17
54.6	130.0	5,351.3	7,098.0	6,177.7	1,102.4	87.03

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
54.6	134.0	5,324.1	7,316.4	6,345.9	1,138.2	86.74
54.6	138.0	5,297.0	7,534.8	6,511.6	1,173.9	86.42
54.6	142.0	5,269.8	7,753.2	6,675.8	1,209.7	86.10
54.6	146.0	5,242.6	7,971.6	6,837.8	1,245.5	85.78
54.6	150.0	5,215.4	8,190.0	6,997.3	1,281.2	85.44
54.6	154.0	5,188.3	8,408.4	7,155.5	1,317.0	85.10
54.6	158.0	5,161.1	8,626.8	7,311.5	1,352.8	84.75
54.6	162.0	5,133.9	8,845.2	7,464.9	1,388.5	84.39
54.5	166.0	5,106.7	9,047.0	7,616.8	1,424.3	84.19
54.5	170.0	5,079.6	9,265.0	7,766.2	1,460.0	83.82
54.5	174.0	5,052.4	9,483.0	7,914.1	1,495.8	83.46
54.5	178.0	5,025.2	9,701.0	8,059.9	1,531.6	83.08
54.5	182.0	4,998.0	9,919.0	8,203.1	1,567.3	82.70
54.5	186.0	4,970.9	10,137.0	8,345.0	1,603.1	82.32
54.5	190.0	4,943.7	10,355.0	8,484.1	1,638.8	81.93
54.5	194.0	4,916.5	10,573.0	8,621.8	1,674.6	81.55
54.5	198.0	4,889.3	10,791.0	8,757.4	1,710.4	81.15
54.4	202.0	4,862.1	10,988.8	8,890.4	1,746.1	80.90
54.4	206.0	4,835.0	11,206.4	9,022.1	1,781.9	80.51
54.4	210.0	4,807.8	11,424.0	9,151.1	1,817.6	80.10
54.4	214.0	4,780.6	11,641.6	9,278.6	1,853.4	79.70
54.4	218.0	4,753.4	11,859.2	9,404.0	1,889.2	79.30
54.4	222.0	4,726.3	12,076.8	9,527.0	1,924.9	78.89
54.4	226.0	4,699.1	12,294.4	9,648.4	1,960.7	78.48
54.4	230.0	4,671.9	12,512.0	9,767.7	1,996.5	78.07
54.4	234.0	4,644.7	12,729.6	9,884.5	2,032.2	77.65
54.3	238.0	4,617.6	12,923.4	9,999.9	2,068.0	77.38
54.3	242.0	4,590.4	13,140.6	10,112.6	2,103.7	76.96

nl = rpm with no load

lo = current with no load

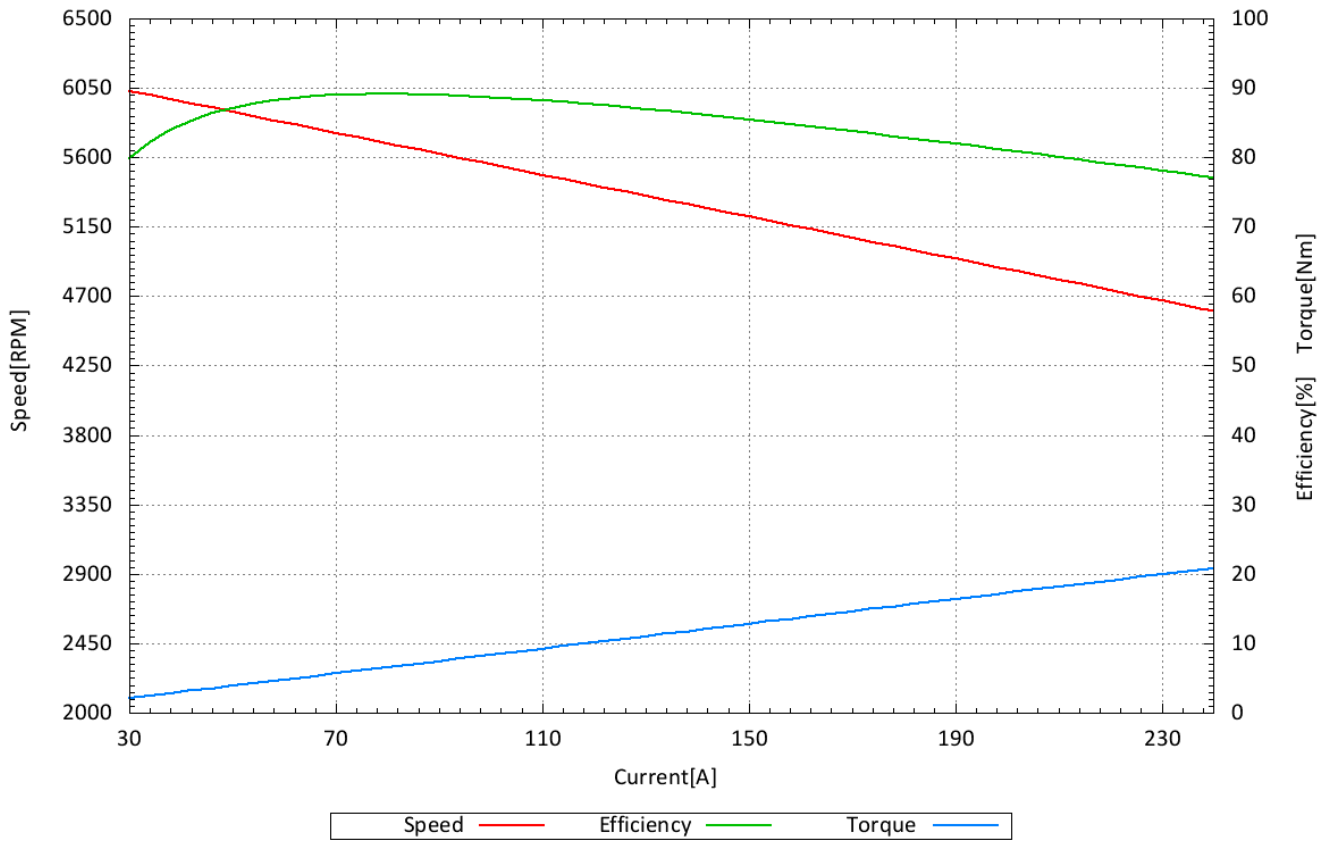
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

<sup>1</sup> incl. Controller

HP940\_37\_B8\_P20\_55V\_14032024



## Report calculated on Test Bench Results

Motor type: **ORBIT 15-37-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

### Measuring Parameter

Voltage: **60.0 [V]**

Throttle setting: 100%

### Calculated Motor Constants

nl: 6,742.9 [RPM]    lo: 6.8 [A]    kv: 113.2 [RPM/V]    kn: -7.35 [RPM/A]    kT: 8.99 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
59.9	30.0	6,572.6	1,797.0	1,434.4	208.4	79.82
59.9	34.0	6,543.3	2,036.6	1,674.0	244.3	82.19
59.9	38.0	6,513.9	2,276.2	1,912.0	280.3	84.00
59.9	42.0	6,484.5	2,515.8	2,147.9	316.3	85.37
59.9	46.0	6,455.1	2,755.4	2,380.8	352.2	86.40
59.9	50.0	6,425.7	2,995.0	2,612.2	388.2	87.22
59.9	54.0	6,396.3	3,234.6	2,840.7	424.1	87.82
59.9	58.0	6,366.9	3,474.2	3,067.7	460.1	88.30
59.9	62.0	6,337.5	3,713.8	3,292.4	496.1	88.65
59.9	66.0	6,308.1	3,953.4	3,514.3	532.0	88.89
59.9	70.0	6,278.8	4,193.0	3,734.7	568.0	89.07
59.8	74.0	6,249.4	4,425.2	3,952.8	604.0	89.32
59.8	78.0	6,220.0	4,664.4	4,168.0	639.9	89.36
59.8	82.0	6,190.6	4,903.6	4,381.7	675.9	89.36
59.8	86.0	6,161.2	5,142.8	4,592.5	711.8	89.30
59.8	90.0	6,131.8	5,382.0	4,801.8	747.8	89.22
59.8	94.0	6,102.4	5,621.2	5,008.8	783.8	89.11
59.8	98.0	6,073.0	5,860.4	5,213.0	819.7	88.95
59.8	102.0	6,043.6	6,099.6	5,415.6	855.7	88.79
59.8	106.0	6,014.3	6,338.8	5,616.1	891.7	88.60
59.8	110.0	5,984.9	6,578.0	5,813.6	927.6	88.38
59.8	114.0	5,955.5	6,817.2	6,009.6	963.6	88.15
59.8	118.0	5,926.1	7,056.4	6,202.7	999.5	87.90
59.7	122.0	5,896.7	7,283.4	6,394.2	1,035.5	87.79
59.7	126.0	5,867.3	7,522.2	6,583.5	1,071.5	87.52
59.7	130.0	5,837.9	7,761.0	6,770.0	1,107.4	87.23

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
59.7	134.0	5,808.5	7,999.8	6,954.9	1,143.4	86.94
59.7	138.0	5,779.1	8,238.6	7,137.0	1,179.3	86.63
59.7	142.0	5,749.8	8,477.4	7,317.5	1,215.3	86.32
59.7	146.0	5,720.4	8,716.2	7,495.8	1,251.3	86.00
59.7	150.0	5,691.0	8,955.0	7,671.2	1,287.2	85.66
59.7	154.0	5,661.6	9,193.8	7,845.0	1,323.2	85.33
59.7	158.0	5,632.2	9,432.6	8,016.6	1,359.2	84.99
59.7	162.0	5,602.8	9,671.4	8,185.4	1,395.1	84.63
59.7	166.0	5,573.4	9,910.2	8,352.5	1,431.1	84.28
59.6	170.0	5,544.0	10,132.0	8,516.9	1,467.0	84.06
59.6	174.0	5,514.6	10,370.4	8,679.6	1,503.0	83.70
59.6	178.0	5,485.3	10,608.8	8,840.3	1,539.0	83.33
59.6	182.0	5,455.9	10,847.2	8,998.0	1,574.9	82.95
59.6	186.0	5,426.5	11,085.6	9,154.1	1,610.9	82.58
59.6	190.0	5,397.1	11,324.0	9,307.4	1,646.8	82.19
59.6	194.0	5,367.7	11,562.4	9,459.1	1,682.8	81.81
59.6	198.0	5,338.3	11,800.8	9,608.5	1,718.8	81.42
59.6	202.0	5,308.9	12,039.2	9,755.2	1,754.7	81.03
59.6	206.0	5,279.5	12,277.6	9,900.2	1,790.7	80.64
59.6	210.0	5,250.1	12,516.0	10,043.0	1,826.7	80.24
59.6	214.0	5,220.8	12,754.4	10,183.2	1,862.6	79.84
59.5	218.0	5,191.4	12,971.0	10,321.6	1,898.6	79.57
59.5	222.0	5,162.0	13,209.0	10,457.2	1,934.5	79.17
59.5	226.0	5,132.6	13,447.0	10,591.1	1,970.5	78.76
59.5	230.0	5,103.2	13,685.0	10,722.9	2,006.5	78.35
59.5	234.0	5,073.8	13,923.0	10,851.8	2,042.4	77.94
59.5	238.0	5,044.4	14,161.0	10,979.1	2,078.4	77.53
59.5	242.0	5,015.0	14,399.0	11,104.2	2,114.4	77.12

nl = rpm with no load

lo = current with no load

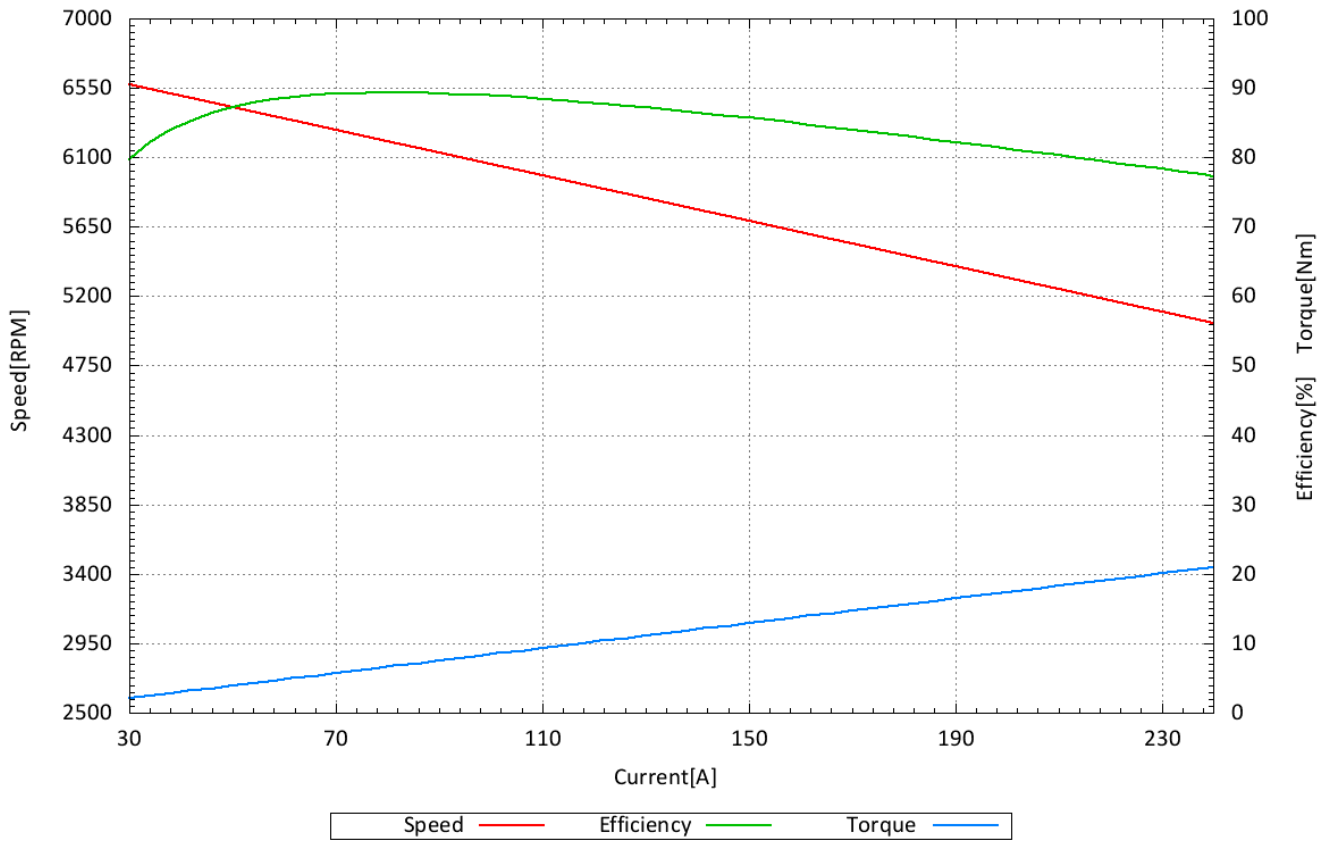
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

<sup>1</sup> incl. Controller

HP940\_37\_B8\_P20\_60V\_14032024





## Report calculated on Test Bench Results

Motor type: **ORBIT 15-37-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

### Measuring Parameter

Voltage: **65.0 [V]**

Throttle setting: 100%

### Calculated Motor Constants

nl: 7,305.5 [RPM]    lo: 7.0 [A]    kv: 113.2 [RPM/V]    kn: -7.65 [RPM/A]    kT: 8.99 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
64.9	30.0	7,129.7	1,947.0	1,543.3	206.7	79.26
64.9	34.0	7,099.1	2,206.6	1,803.5	242.6	81.73
64.9	38.0	7,068.6	2,466.2	2,062.3	278.6	83.62
64.9	42.0	7,038.0	2,725.8	2,318.7	314.6	85.06
64.9	46.0	7,007.4	2,985.4	2,572.0	350.5	86.15
64.9	50.0	6,976.8	3,245.0	2,823.8	386.5	87.02
64.9	54.0	6,946.2	3,504.6	3,072.6	422.4	87.67
64.9	58.0	6,915.6	3,764.2	3,319.7	458.4	88.19
64.9	62.0	6,885.0	4,023.8	3,564.6	494.4	88.59
64.9	66.0	6,854.4	4,283.4	3,806.4	530.3	88.87
64.9	70.0	6,823.8	4,543.0	4,046.7	566.3	89.08
64.8	74.0	6,793.3	4,795.2	4,284.7	602.3	89.35
64.8	78.0	6,762.7	5,054.4	4,519.7	638.2	89.42
64.8	82.0	6,732.1	5,313.6	4,753.0	674.2	89.45
64.8	86.0	6,701.5	5,572.8	4,983.3	710.1	89.42
64.8	90.0	6,670.9	5,832.0	5,212.1	746.1	89.37
64.8	94.0	6,640.3	6,091.2	5,438.5	782.1	89.28
64.8	98.0	6,609.7	6,350.4	5,661.9	818.0	89.16
64.8	102.0	6,579.1	6,609.6	5,883.7	854.0	89.02
64.8	106.0	6,548.5	6,868.8	6,102.6	889.9	88.84
64.8	110.0	6,518.0	7,128.0	6,319.9	925.9	88.66
64.8	114.0	6,487.4	7,387.2	6,534.8	961.9	88.46
64.8	118.0	6,456.8	7,646.4	6,746.7	997.8	88.23
64.7	122.0	6,426.2	7,893.4	6,957.0	1,033.8	88.14
64.7	126.0	6,395.6	8,152.2	7,164.9	1,069.8	87.89
64.7	130.0	6,365.0	8,411.0	7,369.9	1,105.7	87.62

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
64.7	134.0	6,334.4	8,669.8	7,573.3	1,141.7	87.35
64.7	138.0	6,303.8	8,928.6	7,773.7	1,177.6	87.07
64.7	142.0	6,273.2	9,187.4	7,972.5	1,213.6	86.78
64.7	146.0	6,242.7	9,446.2	8,169.1	1,249.6	86.48
64.7	150.0	6,212.1	9,705.0	8,362.6	1,285.5	86.17
64.7	154.0	6,181.5	9,963.8	8,554.4	1,321.5	85.85
64.7	158.0	6,150.9	10,222.6	8,743.3	1,357.4	85.53
64.7	162.0	6,120.3	10,481.4	8,930.5	1,393.4	85.20
64.7	166.0	6,089.7	10,740.2	9,115.5	1,429.4	84.87
64.6	170.0	6,059.1	10,982.0	9,297.4	1,465.3	84.66
64.6	174.0	6,028.5	11,240.4	9,477.8	1,501.3	84.32
64.6	178.0	5,997.9	11,498.8	9,655.8	1,537.3	83.97
64.6	182.0	5,967.4	11,757.2	9,831.0	1,573.2	83.62
64.6	186.0	5,936.8	12,015.6	10,004.4	1,609.2	83.26
64.6	190.0	5,906.2	12,274.0	10,174.9	1,645.1	82.90
64.6	194.0	5,875.6	12,532.4	10,343.7	1,681.1	82.54
64.6	198.0	5,845.0	12,790.8	10,510.1	1,717.1	82.17
64.6	202.0	5,814.4	13,049.2	10,673.7	1,753.0	81.80
64.6	206.0	5,783.8	13,307.6	10,835.6	1,789.0	81.42
64.6	210.0	5,753.2	13,566.0	10,995.1	1,825.0	81.05
64.6	214.0	5,722.6	13,824.4	11,151.8	1,860.9	80.67
64.5	218.0	5,692.1	14,061.0	11,307.0	1,896.9	80.41
64.5	222.0	5,661.5	14,319.0	11,459.0	1,932.8	80.03
64.5	226.0	5,630.9	14,577.0	11,609.4	1,968.8	79.64
64.5	230.0	5,600.3	14,835.0	11,757.4	2,004.8	79.25
64.5	234.0	5,569.7	15,093.0	11,902.5	2,040.7	78.86
64.5	238.0	5,539.1	15,351.0	12,046.0	2,076.7	78.47
64.5	242.0	5,508.5	15,609.0	12,186.5	2,112.6	78.07

nl = rpm with no load

lo = current with no load

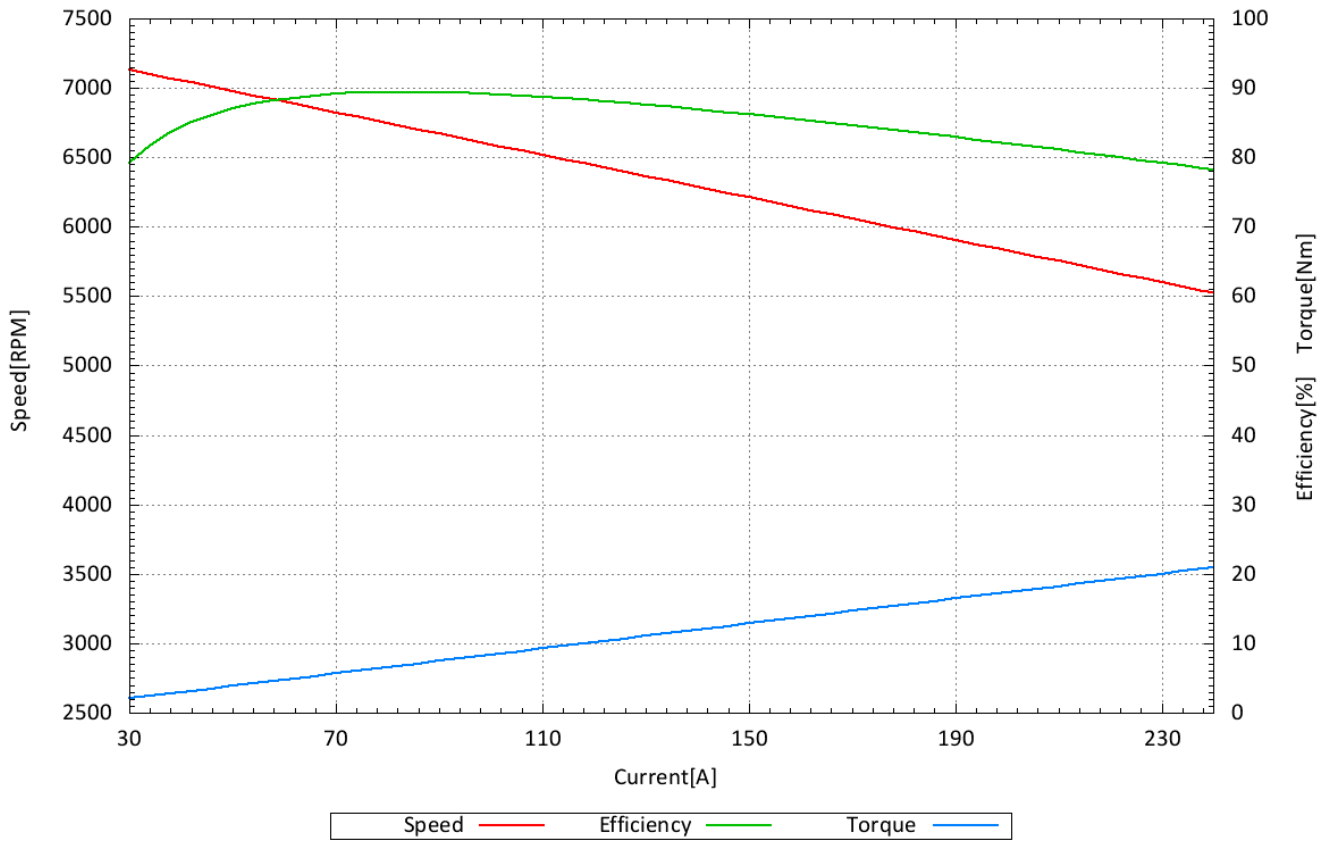
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

<sup>1</sup> incl. Controller

HP940\_37\_B8\_P20\_65V\_14032024



## Report calculated on Test Bench Results

Motor type: **ORBIT 15-37-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

### Measuring Parameter

Voltage: **70.0 [V]**

Throttle setting: 100%

### Calculated Motor Constants

nl: 7,868.1 [RPM]    lo: 7.2 [A]    kv: 113.2 [RPM/V]    kn: -7.94 [RPM/A]    kT: 8.99 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
69.9	30.0	7,687.2	2,097.0	1,650.3	205.0	78.70
69.9	34.0	7,655.4	2,376.6	1,931.2	240.9	81.26
69.9	38.0	7,623.7	2,656.2	2,210.6	276.9	83.23
69.9	42.0	7,591.9	2,935.8	2,487.6	312.9	84.73
69.9	46.0	7,560.2	3,215.4	2,761.5	348.8	85.88
69.9	50.0	7,528.4	3,495.0	3,033.7	384.8	86.80
69.9	54.0	7,496.7	3,774.6	3,302.7	420.7	87.50
69.9	58.0	7,465.0	4,054.2	3,570.2	456.7	88.06
69.9	62.0	7,433.2	4,333.8	3,835.2	492.7	88.49
69.9	66.0	7,401.5	4,613.4	4,097.1	528.6	88.81
69.9	70.0	7,369.7	4,893.0	4,357.3	564.6	89.05
69.8	74.0	7,338.0	5,165.2	4,614.4	600.5	89.34
69.8	78.0	7,306.2	5,444.4	4,869.9	636.5	89.45
69.8	82.0	7,274.5	5,723.6	5,123.0	672.5	89.51
69.8	86.0	7,242.7	6,002.8	5,372.9	708.4	89.51
69.8	90.0	7,211.0	6,282.0	5,621.2	744.4	89.48
69.8	94.0	7,179.3	6,561.2	5,867.2	780.4	89.42
69.8	98.0	7,147.5	6,840.4	6,109.9	816.3	89.32
69.8	102.0	7,115.8	7,119.6	6,351.0	852.3	89.21
69.8	106.0	7,084.0	7,398.8	6,589.0	888.2	89.05
69.8	110.0	7,052.3	7,678.0	6,825.4	924.2	88.89
69.8	114.0	7,020.5	7,957.2	7,059.2	960.2	88.72
69.8	118.0	6,988.8	8,236.4	7,290.1	996.1	88.51
69.7	122.0	6,957.1	8,503.4	7,519.3	1,032.1	88.43
69.7	126.0	6,925.3	8,782.2	7,746.0	1,068.1	88.20
69.7	130.0	6,893.6	9,061.0	7,969.7	1,104.0	87.96

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency <sup>1</sup> [%]
69.7	134.0	6,861.8	9,339.8	8,191.7	1,140.0	87.71
69.7	138.0	6,830.1	9,618.6	8,410.6	1,175.9	87.44
69.7	142.0	6,798.3	9,897.4	8,627.7	1,211.9	87.17
69.7	146.0	6,766.6	10,176.2	8,842.6	1,247.9	86.89
69.7	150.0	6,734.9	10,455.0	9,054.3	1,283.8	86.60
69.7	154.0	6,703.1	10,733.8	9,264.3	1,319.8	86.31
69.7	158.0	6,671.4	11,012.6	9,471.3	1,355.7	86.00
69.7	162.0	6,639.6	11,291.4	9,676.5	1,391.7	85.70
69.7	166.0	6,607.9	11,570.2	9,879.4	1,427.7	85.39
69.6	170.0	6,576.1	11,832.0	10,079.0	1,463.6	85.18
69.6	174.0	6,544.4	12,110.4	10,277.2	1,499.6	84.86
69.6	178.0	6,512.6	12,388.8	10,472.8	1,535.6	84.53
69.6	182.0	6,480.9	12,667.2	10,665.4	1,571.5	84.20
69.6	186.0	6,449.2	12,945.6	10,856.4	1,607.5	83.86
69.6	190.0	6,417.4	13,224.0	11,044.1	1,643.4	83.52
69.6	194.0	6,385.7	13,502.4	11,230.3	1,679.4	83.17
69.6	198.0	6,353.9	13,780.8	11,413.9	1,715.4	82.82
69.6	202.0	6,322.2	14,059.2	11,594.6	1,751.3	82.47
69.6	206.0	6,290.4	14,337.6	11,773.5	1,787.3	82.12
69.6	210.0	6,258.7	14,616.0	11,949.4	1,823.2	81.76
69.6	214.0	6,227.0	14,894.4	12,123.7	1,859.2	81.40
69.5	218.0	6,195.2	15,151.0	12,295.3	1,895.2	81.15
69.5	222.0	6,163.5	15,429.0	12,464.1	1,931.1	80.78
69.5	226.0	6,131.7	15,707.0	12,630.9	1,967.1	80.42
69.5	230.0	6,100.0	15,985.0	12,795.6	2,003.1	80.05
69.5	234.0	6,068.2	16,263.0	12,957.0	2,039.0	79.67
69.5	238.0	6,036.5	16,541.0	13,116.9	2,075.0	79.30
69.5	242.0	6,004.7	16,819.0	13,273.6	2,110.9	78.92

nl = rpm with no load

lo = current with no load

kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

<sup>1</sup> incl. Controller

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