Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B6 P20**

Date: 12.04.2024
Bearing type: regular
Controller: Common ESC

Measuring Parameter

Voltage: **15.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 3,212.9 [RPM] Io: 1.9 [A] kV: 215.5 [RPM/V] kn: -10.29 [RPM/A] kT: 4.54 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
14.9	15.0	3,078.3	223.5	191.2	59.3	85.53
14.9	17.0	3,057.8	253.3	219.0	68.4	86.47
14.9	19.0	3,037.2	283.1	246.5	77.5	87.07
14.9	21.0	3,016.6	312.9	273.6	86.6	87.43
14.9	23.0	2,996.0	342.7	299.9	95.6	87.52
14.9	25.0	2,975.4	372.5	326.2	104.7	87.58
14.9	27.0	2,954.8	402.3	352.1	113.8	87.53
14.9	29.0	2,934.3	432.1	377.6	122.9	87.40
14.9	31.0	2,913.7	461.9	402.8	132.0	87.20
14.9	33.0	2,893.1	491.7	427.2	141.0	86.88
14.9	35.0	2,872.5	521.5	451.5	150.1	86.58
14.9	37.0	2,851.9	551.3	475.5	159.2	86.24
14.9	39.0	2,831.3	581.1	499.0	168.3	85.87
14.9	41.0	2,810.8	610.9	521.9	177.3	85.43
14.8	43.0	2,790.2	636.4	544.6	186.4	85.58
14.8	45.0	2,769.6	666.0	567.0	195.5	85.14
14.8	47.0	2,749.0	695.6	589.0	204.6	84.67
14.8	49.0	2,728.4	725.2	610.6	213.7	84.19
14.8	51.0	2,707.8	754.8	631.5	222.7	83.66
14.8	53.0	2,687.3	784.4	652.3	231.8	83.16
14.8	55.0	2,666.7	814.0	672.7	240.9	82.64
14.8	57.0	2,646.1	843.6	692.7	250.0	82.12
14.8	59.0	2,625.5	873.2	712.4	259.1	81.58
14.8	61.0	2,604.9	902.8	731.3	268.1	81.01
14.8	63.0	2,584.3	932.4	750.2	277.2	80.46
14.8	65.0	2,563.7	962.0	768.6	286.3	79.90

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
14.8	67.0	2,543.2	991.6	786.7	295.4	79.34
14.8	69.0	2,522.6	1,021.2	804.1	304.4	78.74
14.7	71.0	2,502.0	1,043.7	821.4	313.5	78.70
14.7	73.0	2,481.4	1,073.1	838.3	322.6	78.12
14.7	75.0	2,460.8	1,102.5	854.8	331.7	77.53
14.7	77.0	2,440.2	1,131.9	870.9	340.8	76.94
14.7	79.0	2,419.7	1,161.3	886.4	349.8	76.32
14.7	81.0	2,399.1	1,190.7	901.7	358.9	75.73
14.7	83.0	2,378.5	1,220.1	916.6	368.0	75.12
14.7	85.0	2,357.9	1,249.5	931.1	377.1	74.52
14.7	87.0	2,337.3	1,278.9	945.0	386.1	73.89
14.7	89.0	2,316.7	1,308.3	958.8	395.2	73.28
14.7	91.0	2,296.2	1,337.7	972.2	404.3	72.67
14.7	93.0	2,275.6	1,367.1	985.1	413.4	72.06
14.7	95.0	2,255.0	1,396.5	997.7	422.5	71.44
14.7	97.0	2,234.4	1,425.9	1,009.6	431.5	70.81
14.6	99.0	2,213.8	1,445.4	1,021.4	440.6	70.67
14.6	101.0	2,193.2	1,474.6	1,032.8	449.7	70.04
14.6	103.0	2,172.7	1,503.8	1,043.9	458.8	69.42
14.6	105.0	2,152.1	1,533.0	1,054.5	467.9	68.79
14.6	107.0	2,131.5	1,562.2	1,064.5	476.9	68.14
14.6	109.0	2,110.9	1,591.4	1,074.3	486.0	67.51
14.6	111.0	2,090.3	1,620.6	1,083.8	495.1	66.87
14.6	113.0	2,069.7	1,649.8	1,092.8	504.2	66.24
14.6	115.0	2,049.2	1,679.0	1,101.3	513.2	65.59
14.6	117.0	2,028.6	1,708.2	1,109.5	522.3	64.95
14.6	119.0	2,008.0	1,737.4	1,117.4	531.4	64.32
14.6	121.0	1,987.4	1,766.6	1,124.9	540.5	63.68
14.6	123.0	1,966.8	1,795.8	1,132.0	549.6	63.03
14.6	125.0	1,946.2	1,825.0	1,138.5	558.6	62.38
14.5	127.0	1,925.7	1,841.5	1,144.8	567.7	62.17
14.5	129.0	1,905.1	1,870.5	1,150.7	576.8	61.52
14.5	131.0	1,884.5	1,899.5	1,156.2	585.9	60.87
14.5	133.0	1,863.9	1,928.5	1,161.2	594.9	60.21
14.5	135.0	1,843.3	1,957.5	1,165.9	604.0	59.56
14.5	137.0	1,822.7	1,986.5	1,170.2	613.1	58.91
14.5	139.0	1,802.2	2,015.5	1,174.3	622.2	58.26
14.5	141.0	1,781.6	2,044.5	1,177.8	631.3	57.61

nl = rpm with no load

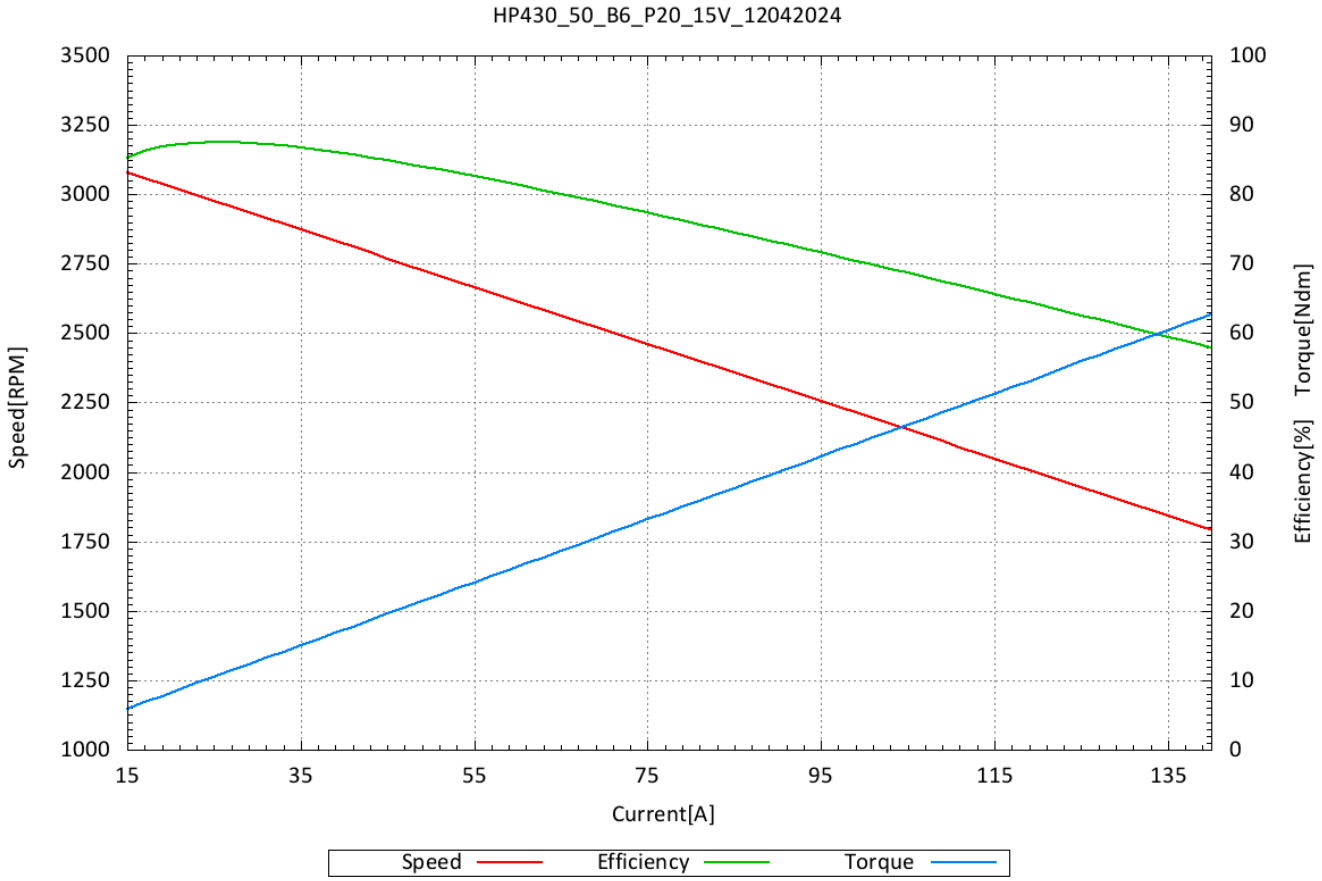
Io = current with no load

kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

[1] incl. Controller


HP430_50_B6_P20_15V_12042024
Speed[RPM]
Efficiency[%] Torque[Ndm]
Current[A]
3500
3250
3000
2750
2500
2250
2000
1750
1500
1250
1000
100
90
80
70
60
50
40
30
20
10
0
15
35
55
75
95
115
135
Speed
Efficiency
Torque

Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B6 P20**

Date: 12.04.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **20.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 4,245.4 [RPM] Io: 2.1 [A] kV: 213.5 [RPM/V] kn: -11.58 [RPM/A] kT: 4.58 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
19.9	15.0	4,095.8	298.5	253.9	59.2	85.06
19.9	17.0	4,072.6	338.3	291.7	68.4	86.23
19.9	19.0	4,049.4	378.1	328.6	77.5	86.92
19.9	21.0	4,026.3	417.9	365.6	86.7	87.47
19.9	23.0	4,003.1	457.7	401.6	95.8	87.74
19.9	25.0	3,980.0	497.5	437.6	105.0	87.96
19.9	27.0	3,956.8	537.3	473.2	114.2	88.07
19.9	29.0	3,933.7	577.1	507.9	123.3	88.01
19.9	31.0	3,910.5	616.9	542.6	132.5	87.96
19.9	33.0	3,887.4	656.7	576.4	141.6	87.78
19.9	35.0	3,864.2	696.5	610.2	150.8	87.61
19.9	37.0	3,841.0	736.3	643.6	160.0	87.41
19.8	39.0	3,817.9	772.2	676.1	169.1	87.55
19.8	41.0	3,794.7	811.8	708.5	178.3	87.28
19.8	43.0	3,771.6	851.4	740.2	187.4	86.93
19.8	45.0	3,748.4	891.0	771.7	196.6	86.61
19.8	47.0	3,725.3	930.6	802.9	205.8	86.27
19.8	49.0	3,702.1	970.2	833.1	214.9	85.87
19.8	51.0	3,678.9	1,009.8	863.4	224.1	85.50
19.8	53.0	3,655.8	1,049.4	892.8	233.2	85.07
19.8	55.0	3,632.6	1,089.0	922.1	242.4	84.67
19.8	57.0	3,609.5	1,128.6	951.0	251.6	84.26
19.8	59.0	3,586.3	1,168.2	979.1	260.7	83.81
19.8	61.0	3,563.2	1,207.8	1,007.1	269.9	83.38
19.7	63.0	3,540.0	1,241.1	1,034.3	279.0	83.34
19.7	65.0	3,516.9	1,280.5	1,061.4	288.2	82.89

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
19.7	67.0	3,493.7	1,319.9	1,088.1	297.4	82.44
19.7	69.0	3,470.5	1,359.3	1,113.9	306.5	81.95
19.7	71.0	3,447.4	1,398.7	1,139.7	315.7	81.48
19.7	73.0	3,424.2	1,438.1	1,164.7	324.8	80.99
19.7	75.0	3,401.1	1,477.5	1,189.6	334.0	80.51
19.7	77.0	3,377.9	1,516.9	1,214.0	343.2	80.03
19.7	79.0	3,354.8	1,556.3	1,237.7	352.3	79.53
19.7	81.0	3,331.6	1,595.7	1,261.2	361.5	79.04
19.7	83.0	3,308.5	1,635.1	1,284.0	370.6	78.53
19.7	85.0	3,285.3	1,674.5	1,306.6	379.8	78.03
19.7	87.0	3,262.1	1,713.9	1,328.8	389.0	77.53
19.6	89.0	3,239.0	1,744.4	1,350.3	398.1	77.41
19.6	91.0	3,215.8	1,783.6	1,371.6	407.3	76.90
19.6	93.0	3,192.7	1,822.8	1,392.2	416.4	76.38
19.6	95.0	3,169.5	1,862.0	1,412.6	425.6	75.86
19.6	97.0	3,146.4	1,901.2	1,432.6	434.8	75.35
19.6	99.0	3,123.2	1,940.4	1,451.8	443.9	74.82
19.6	101.0	3,100.1	1,979.6	1,471.0	453.1	74.31
19.6	103.0	3,076.9	2,018.8	1,489.3	462.2	73.77
19.6	105.0	3,053.7	2,058.0	1,507.5	471.4	73.25
19.6	107.0	3,030.6	2,097.2	1,525.2	480.6	72.73
19.6	109.0	3,007.4	2,136.4	1,542.2	489.7	72.19
19.6	111.0	2,984.3	2,175.6	1,559.1	498.9	71.66
19.5	113.0	2,961.1	2,203.5	1,575.2	508.0	71.49
19.5	115.0	2,938.0	2,242.5	1,591.3	517.2	70.96
19.5	117.0	2,914.8	2,281.5	1,606.8	526.4	70.43
19.5	119.0	2,891.6	2,320.5	1,621.5	535.5	69.88
19.5	121.0	2,868.5	2,359.5	1,636.2	544.7	69.35
19.5	123.0	2,845.3	2,398.5	1,650.1	553.8	68.80
19.5	125.0	2,822.2	2,437.5	1,663.9	563.0	68.26
19.5	127.0	2,799.0	2,476.5	1,677.2	572.2	67.72
19.5	129.0	2,775.9	2,515.5	1,689.8	581.3	67.18
19.5	131.0	2,752.7	2,554.5	1,702.2	590.5	66.63
19.5	133.0	2,729.6	2,593.5	1,713.9	599.6	66.09
19.5	135.0	2,706.4	2,632.5	1,725.4	608.8	65.54
19.5	137.0	2,683.2	2,671.5	1,736.5	618.0	65.00
19.4	139.0	2,660.1	2,696.6	1,746.9	627.1	64.78
19.4	141.0	2,636.9	2,735.4	1,757.1	636.3	64.23

nl = rpm with no load

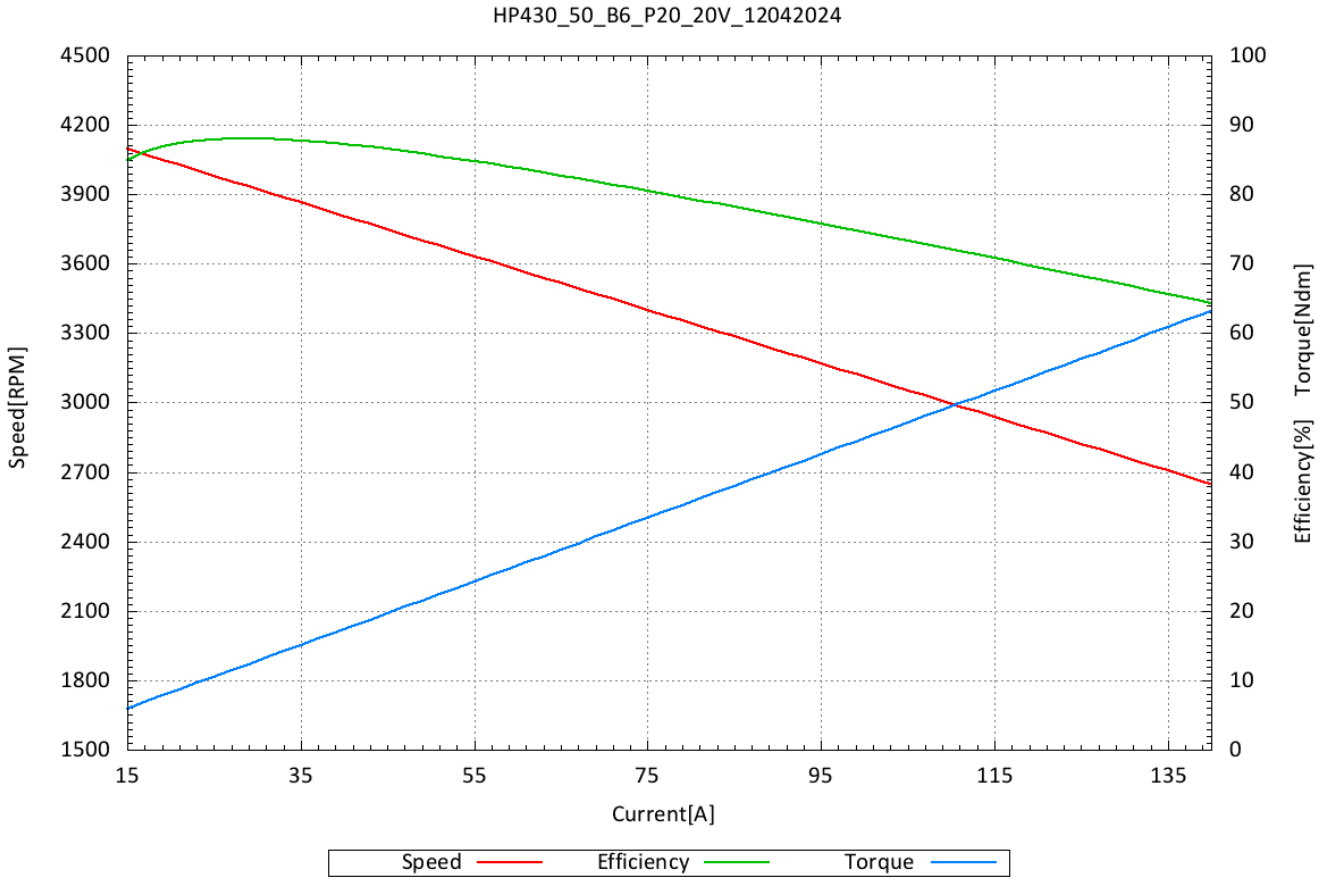
Io = current with no load

kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

[1] incl. Controller


HP430_50_B6_P20_20V_12042024
Speed[RPM]
Efficiency[%] Torque[Ndm]
Current[A]
4500
4200
3900
3600
3300
3000
2700
2400
2100
1800
1500
100
90
80
70
60
50
40
30
20
10
0
15
35
55
75
95
115
135
Speed
Efficiency
Torque

Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B6 P20**

Date: 12.04.2024
Bearing type: regular
Controller: Common ESC

Measuring Parameter

Voltage: **25.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 5,236.3 [RPM] Io: 2.9 [A] kV: 210.9 [RPM/V] kn: -12.58 [RPM/A] kT: 4.75 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
24.9	15.0	5,084.3	373.5	305.6	57.4	81.82
24.9	17.0	5,059.1	423.3	354.4	66.9	83.73
24.9	19.0	5,034.0	473.1	402.7	76.4	85.13
24.9	21.0	5,008.8	522.9	450.6	85.9	86.17
24.9	23.0	4,983.7	572.7	497.9	95.4	86.94
24.9	25.0	4,958.5	622.5	544.7	104.9	87.50
24.9	27.0	4,933.4	672.3	591.0	114.4	87.91
24.9	29.0	4,908.2	722.1	636.8	123.9	88.19
24.9	31.0	4,883.1	771.9	682.2	133.4	88.37
24.9	33.0	4,857.9	821.7	727.0	142.9	88.47
24.8	35.0	4,832.7	868.0	771.8	152.5	88.91
24.8	37.0	4,807.6	917.6	815.6	162.0	88.88
24.8	39.0	4,782.4	967.2	858.9	171.5	88.80
24.8	41.0	4,757.3	1,016.8	901.7	181.0	88.68
24.8	43.0	4,732.1	1,066.4	944.0	190.5	88.52
24.8	45.0	4,707.0	1,116.0	985.8	200.0	88.34
24.8	47.0	4,681.8	1,165.6	1,027.1	209.5	88.12
24.8	49.0	4,656.7	1,215.2	1,068.0	219.0	87.88
24.8	51.0	4,631.5	1,264.8	1,108.2	228.5	87.62
24.8	53.0	4,606.4	1,314.4	1,148.1	238.0	87.35
24.8	55.0	4,581.2	1,364.0	1,187.4	247.5	87.05
24.8	57.0	4,556.1	1,413.6	1,226.2	257.0	86.74
24.7	59.0	4,530.9	1,457.3	1,264.5	266.5	86.77
24.7	61.0	4,505.8	1,506.7	1,302.3	276.0	86.43
24.7	63.0	4,480.6	1,556.1	1,339.6	285.5	86.09
24.7	65.0	4,455.5	1,605.5	1,376.4	295.0	85.73

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
24.7	67.0	4,430.3	1,654.9	1,412.7	304.5	85.36
24.7	69.0	4,405.2	1,704.3	1,448.5	314.0	84.99
24.7	71.0	4,380.0	1,753.7	1,483.8	323.5	84.61
24.7	73.0	4,354.9	1,803.1	1,518.6	333.0	84.22
24.7	75.0	4,329.7	1,852.5	1,552.9	342.5	83.83
24.7	77.0	4,304.5	1,901.9	1,586.7	352.0	83.43
24.7	79.0	4,279.4	1,951.3	1,620.0	361.5	83.02
24.7	81.0	4,254.2	2,000.7	1,652.8	371.0	82.61
24.6	83.0	4,229.1	2,041.8	1,685.1	380.5	82.53
24.6	85.0	4,203.9	2,091.0	1,716.9	390.0	82.11
24.6	87.0	4,178.8	2,140.2	1,748.2	399.5	81.69
24.6	89.0	4,153.6	2,189.4	1,779.0	409.0	81.26
24.6	91.0	4,128.5	2,238.6	1,809.3	418.5	80.82
24.6	93.0	4,103.3	2,287.8	1,839.1	428.0	80.39
24.6	95.0	4,078.2	2,337.0	1,868.4	437.5	79.95
24.6	97.0	4,053.0	2,386.2	1,897.2	447.0	79.51
24.6	99.0	4,027.9	2,435.4	1,925.5	456.5	79.06
24.6	101.0	4,002.7	2,484.6	1,953.3	466.0	78.62
24.6	103.0	3,977.6	2,533.8	1,980.6	475.5	78.17
24.5	105.0	3,952.4	2,572.5	2,007.4	485.0	78.03
24.5	107.0	3,927.3	2,621.5	2,033.7	494.5	77.58
24.5	109.0	3,902.1	2,670.5	2,059.5	504.0	77.12
24.5	111.0	3,877.0	2,719.5	2,084.8	513.5	76.66
24.5	113.0	3,851.8	2,768.5	2,109.6	523.0	76.20
24.5	115.0	3,826.6	2,817.5	2,133.8	532.5	75.74
24.5	117.0	3,801.5	2,866.5	2,157.7	542.0	75.27
24.5	119.0	3,776.3	2,915.5	2,181.3	551.6	74.82
24.5	121.0	3,751.2	2,964.5	2,204.1	561.1	74.35
24.5	123.0	3,726.0	3,013.5	2,226.4	570.6	73.88
24.5	125.0	3,700.9	3,062.5	2,248.2	580.1	73.41
24.5	127.0	3,675.7	3,111.5	2,269.5	589.6	72.94
24.4	129.0	3,650.6	3,147.6	2,290.3	599.1	72.76
24.4	131.0	3,625.4	3,196.4	2,310.6	608.6	72.29
24.4	133.0	3,600.3	3,245.2	2,330.4	618.1	71.81
24.4	135.0	3,575.1	3,294.0	2,349.6	627.6	71.33
24.4	137.0	3,550.0	3,342.8	2,368.5	637.1	70.85
24.4	139.0	3,524.8	3,391.6	2,386.7	646.6	70.37
24.4	141.0	3,499.7	3,440.4	2,404.5	656.1	69.89

nl = rpm with no load

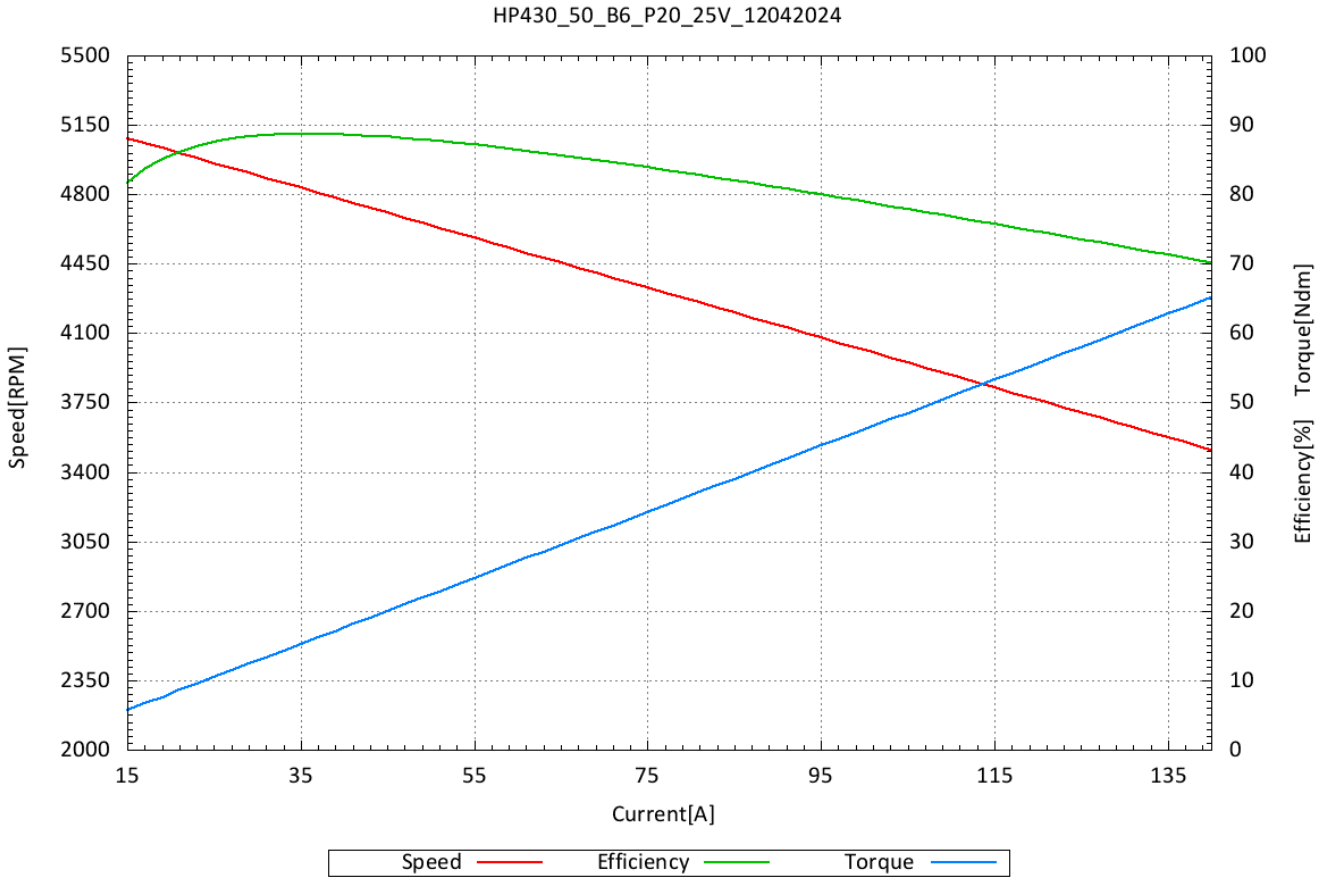
Io = current with no load

kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

[1] incl. Controller


HP430_50_B6_P20_25V_12042024
Speed[RPM]
Efficiency[%] Torque[Ndm]
Current[A]
5500
5150
4800
4450
4100
3750
3400
3050
2700
2350
2000
100
90
80
70
60
50
40
30
20
10
0
15
35
55
75
95
115
135
Speed
Efficiency
Torque

Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B6 P20**

Date: 12.04.2024
Bearing type: regular
Controller: Common ESC

Measuring Parameter

Voltage: **30.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 6,245.4 [RPM] Io: 2.5 [A] kV: 209.3 [RPM/V] kn: -13.83 [RPM/A] kT: 4.71 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
29.9	15.0	6,072.8	448.5	373.3	58.7	83.23
29.9	17.0	6,045.2	508.3	431.1	68.1	84.81
29.9	19.0	6,017.5	568.1	488.4	77.5	85.96
29.9	21.0	5,989.8	627.9	545.7	87.0	86.91
29.9	23.0	5,962.2	687.7	601.9	96.4	87.52
29.9	25.0	5,934.5	747.5	657.5	105.8	87.96
29.9	27.0	5,906.8	807.3	712.6	115.2	88.27
29.9	29.0	5,879.2	867.1	767.1	124.6	88.47
29.9	31.0	5,851.5	926.9	821.1	134.0	88.59
29.9	33.0	5,823.8	986.7	874.5	143.4	88.63
29.8	35.0	5,796.2	1,043.0	928.1	152.9	88.98
29.8	37.0	5,768.5	1,102.6	980.4	162.3	88.92
29.8	39.0	5,740.8	1,162.2	1,032.2	171.7	88.82
29.8	41.0	5,713.1	1,221.8	1,083.5	181.1	88.68
29.8	43.0	5,685.5	1,281.4	1,134.2	190.5	88.51
29.8	45.0	5,657.8	1,341.0	1,184.4	199.9	88.32
29.8	47.0	5,630.1	1,400.6	1,234.0	209.3	88.10
29.8	49.0	5,602.5	1,460.2	1,283.1	218.7	87.87
29.8	51.0	5,574.8	1,519.8	1,332.2	228.2	87.66
29.8	53.0	5,547.1	1,579.4	1,380.2	237.6	87.39
29.8	55.0	5,519.5	1,639.0	1,427.7	247.0	87.11
29.7	57.0	5,491.8	1,692.9	1,474.6	256.4	87.10
29.7	59.0	5,464.1	1,752.3	1,520.9	265.8	86.79
29.7	61.0	5,436.5	1,811.7	1,566.7	275.2	86.48
29.7	63.0	5,408.8	1,871.1	1,612.0	284.6	86.15
29.7	65.0	5,381.1	1,930.5	1,657.3	294.1	85.85

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
29.7	67.0	5,353.4	1,989.9	1,701.4	303.5	85.50
29.7	69.0	5,325.8	2,049.3	1,745.1	312.9	85.16
29.7	71.0	5,298.1	2,108.7	1,788.2	322.3	84.80
29.7	73.0	5,270.4	2,168.1	1,830.7	331.7	84.44
29.7	75.0	5,242.8	2,227.5	1,872.7	341.1	84.07
29.7	77.0	5,215.1	2,286.9	1,914.2	350.5	83.70
29.7	79.0	5,187.4	2,346.3	1,955.6	360.0	83.35
29.6	81.0	5,159.8	2,397.6	1,996.0	369.4	83.25
29.6	83.0	5,132.1	2,456.8	2,035.8	378.8	82.86
29.6	85.0	5,104.4	2,516.0	2,075.1	388.2	82.47
29.6	87.0	5,076.8	2,575.2	2,113.8	397.6	82.08
29.6	89.0	5,049.1	2,634.4	2,152.0	407.0	81.69
29.6	91.0	5,021.4	2,693.6	2,189.6	416.4	81.29
29.6	93.0	4,993.7	2,752.8	2,227.2	425.9	80.91
29.6	95.0	4,966.1	2,812.0	2,263.8	435.3	80.50
29.6	97.0	4,938.4	2,871.2	2,299.8	444.7	80.10
29.6	99.0	4,910.7	2,930.4	2,335.2	454.1	79.69
29.6	101.0	4,883.1	2,989.6	2,370.1	463.5	79.28
29.5	103.0	4,855.4	3,038.5	2,404.5	472.9	79.13
29.5	105.0	4,827.7	3,097.5	2,438.3	482.3	78.72
29.5	107.0	4,800.1	3,156.5	2,472.1	491.8	78.32
29.5	109.0	4,772.4	3,215.5	2,504.8	501.2	77.90
29.5	111.0	4,744.7	3,274.5	2,537.0	510.6	77.48
29.5	113.0	4,717.0	3,333.5	2,568.6	520.0	77.05
29.5	115.0	4,689.4	3,392.5	2,599.7	529.4	76.63
29.5	117.0	4,661.7	3,451.5	2,630.3	538.8	76.21
29.5	119.0	4,634.0	3,510.5	2,660.3	548.2	75.78
29.5	121.0	4,606.4	3,569.5	2,690.2	557.7	75.37
29.5	123.0	4,578.7	3,628.5	2,719.1	567.1	74.94
29.4	125.0	4,551.0	3,675.0	2,747.5	576.5	74.76
29.4	127.0	4,523.4	3,733.8	2,775.3	585.9	74.33
29.4	129.0	4,495.7	3,792.6	2,802.6	595.3	73.90
29.4	131.0	4,468.0	3,851.4	2,829.3	604.7	73.46
29.4	133.0	4,440.4	3,910.2	2,855.6	614.1	73.03
29.4	135.0	4,412.7	3,969.0	2,881.6	623.6	72.60
29.4	137.0	4,385.0	4,027.8	2,906.7	633.0	72.17
29.4	139.0	4,357.3	4,086.6	2,931.2	642.4	71.73
29.4	141.0	4,329.7	4,145.4	2,955.3	651.8	71.29

nl = rpm with no load

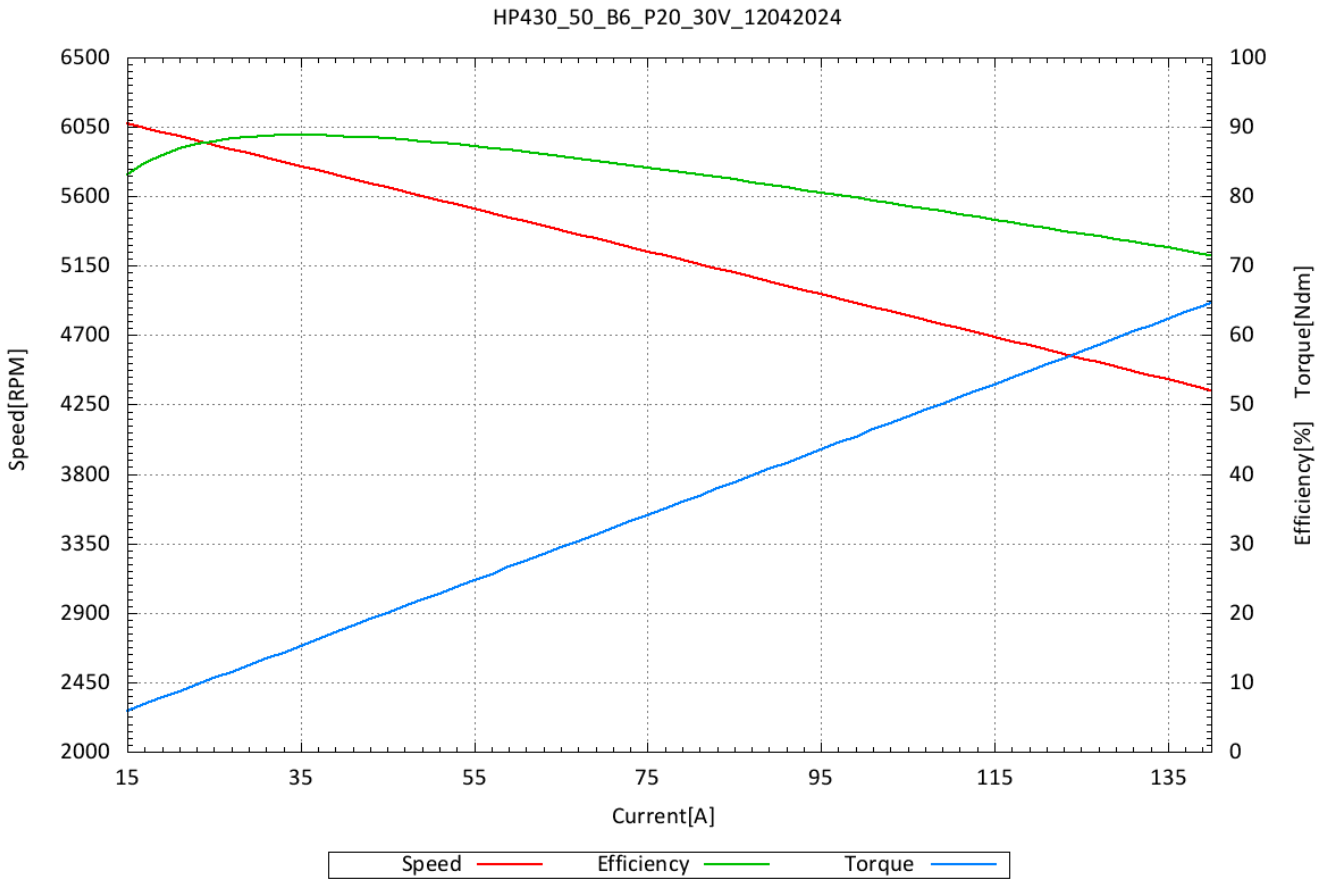
Io = current with no load

kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

[1] incl. Controller


HP430_50_B6_P20_30V_12042024
Speed[RPM]
Efficiency[%] Torque[Ndm]
Current[A]
6500
6050
5600
5150
4700
4250
3800
3350
2900
2450
2000
100
90
80
70
60
50
40
30
20
10
0
15
35
55
75
95
115
135
Speed
Efficiency
Torque

Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B6 P20**

Date: 12.04.2024
Bearing type: regular
Controller: Common ESC

Measuring Parameter

Voltage: **35.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 7,204.7 [RPM] Io: 4.7 [A] kV: 207.9 [RPM/V] kn: -15.00 [RPM/A] kT: 4.89 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
34.9	15.0	7,050.2	523.5	372.1	50.4	71.08
34.9	17.0	7,020.2	593.3	442.6	60.2	74.59
34.9	19.0	6,990.2	663.1	512.4	70.0	77.27
34.9	21.0	6,960.1	732.9	581.6	79.8	79.36
34.9	23.0	6,930.1	802.7	650.2	89.6	81.01
34.9	25.0	6,900.1	872.5	718.2	99.4	82.32
34.9	27.0	6,870.1	942.3	784.9	109.1	83.30
34.9	29.0	6,840.1	1,012.1	851.7	118.9	84.15
34.9	31.0	6,810.1	1,081.9	917.8	128.7	84.83
34.9	33.0	6,780.1	1,151.7	983.4	138.5	85.38
34.9	35.0	6,750.1	1,221.5	1,048.3	148.3	85.82
34.9	37.0	6,720.1	1,291.3	1,112.6	158.1	86.16
34.9	39.0	6,690.1	1,361.1	1,176.3	167.9	86.42
34.9	41.0	6,660.1	1,430.9	1,239.4	177.7	86.61
34.8	43.0	6,630.1	1,496.4	1,301.1	187.4	86.95
34.8	45.0	6,600.1	1,566.0	1,363.0	197.2	87.04
34.8	47.0	6,570.1	1,635.6	1,424.2	207.0	87.08
34.8	49.0	6,540.1	1,705.2	1,484.8	216.8	87.08
34.8	51.0	6,510.0	1,774.8	1,544.8	226.6	87.04
34.8	53.0	6,480.0	1,844.4	1,604.2	236.4	86.98
34.8	55.0	6,450.0	1,914.0	1,662.9	246.2	86.88
34.8	57.0	6,420.0	1,983.6	1,721.1	256.0	86.77
34.8	59.0	6,390.0	2,053.2	1,778.6	265.8	86.63
34.8	61.0	6,360.0	2,122.8	1,834.9	275.5	86.44
34.8	63.0	6,330.0	2,192.4	1,891.2	285.3	86.26
34.8	65.0	6,300.0	2,262.0	1,946.9	295.1	86.07

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
34.8	67.0	6,270.0	2,331.6	2,002.0	304.9	85.86
34.8	69.0	6,240.0	2,401.2	2,056.4	314.7	85.64
34.7	71.0	6,210.0	2,463.7	2,110.3	324.5	85.65
34.7	73.0	6,180.0	2,533.1	2,163.5	334.3	85.41
34.7	75.0	6,150.0	2,602.5	2,216.1	344.1	85.15
34.7	77.0	6,120.0	2,671.9	2,267.5	353.8	84.86
34.7	79.0	6,090.0	2,741.3	2,318.8	363.6	84.59
34.7	81.0	6,059.9	2,810.7	2,369.6	373.4	84.31
34.7	83.0	6,029.9	2,880.1	2,419.7	383.2	84.01
34.7	85.0	5,999.9	2,949.5	2,469.3	393.0	83.72
34.7	87.0	5,969.9	3,018.9	2,518.2	402.8	83.41
34.7	89.0	5,939.9	3,088.3	2,566.5	412.6	83.10
34.7	91.0	5,909.9	3,157.7	2,614.2	422.4	82.79
34.7	93.0	5,879.9	3,227.1	2,660.6	432.1	82.45
34.7	95.0	5,849.9	3,296.5	2,707.1	441.9	82.12
34.7	97.0	5,819.9	3,365.9	2,752.9	451.7	81.79
34.6	99.0	5,789.9	3,425.4	2,798.2	461.5	81.69
34.6	101.0	5,759.9	3,494.6	2,842.8	471.3	81.35
34.6	103.0	5,729.9	3,563.8	2,886.8	481.1	81.00
34.6	105.0	5,699.9	3,633.0	2,930.1	490.9	80.65
34.6	107.0	5,669.9	3,702.2	2,972.9	500.7	80.30
34.6	109.0	5,639.9	3,771.4	3,015.1	510.5	79.95
34.6	111.0	5,609.8	3,840.6	3,056.0	520.2	79.57
34.6	113.0	5,579.8	3,909.8	3,096.9	530.0	79.21
34.6	115.0	5,549.8	3,979.0	3,137.2	539.8	78.84
34.6	117.0	5,519.8	4,048.2	3,176.9	549.6	78.48
34.6	119.0	5,489.8	4,117.4	3,215.9	559.4	78.11
34.6	121.0	5,459.8	4,186.6	3,254.4	569.2	77.73
34.6	123.0	5,429.8	4,255.8	3,292.2	579.0	77.36
34.6	125.0	5,399.8	4,325.0	3,329.5	588.8	76.98
34.5	127.0	5,369.8	4,381.5	3,365.5	598.5	76.81
34.5	129.0	5,339.8	4,450.5	3,401.5	608.3	76.43
34.5	131.0	5,309.8	4,519.5	3,436.9	618.1	76.05
34.5	133.0	5,279.8	4,588.5	3,471.7	627.9	75.66
34.5	135.0	5,249.8	4,657.5	3,505.8	637.7	75.27
34.5	137.0	5,219.8	4,726.5	3,539.3	647.5	74.88
34.5	139.0	5,189.7	4,795.5	3,572.2	657.3	74.49
34.5	141.0	5,159.7	4,864.5	3,604.5	667.1	74.10

nl = rpm with no load

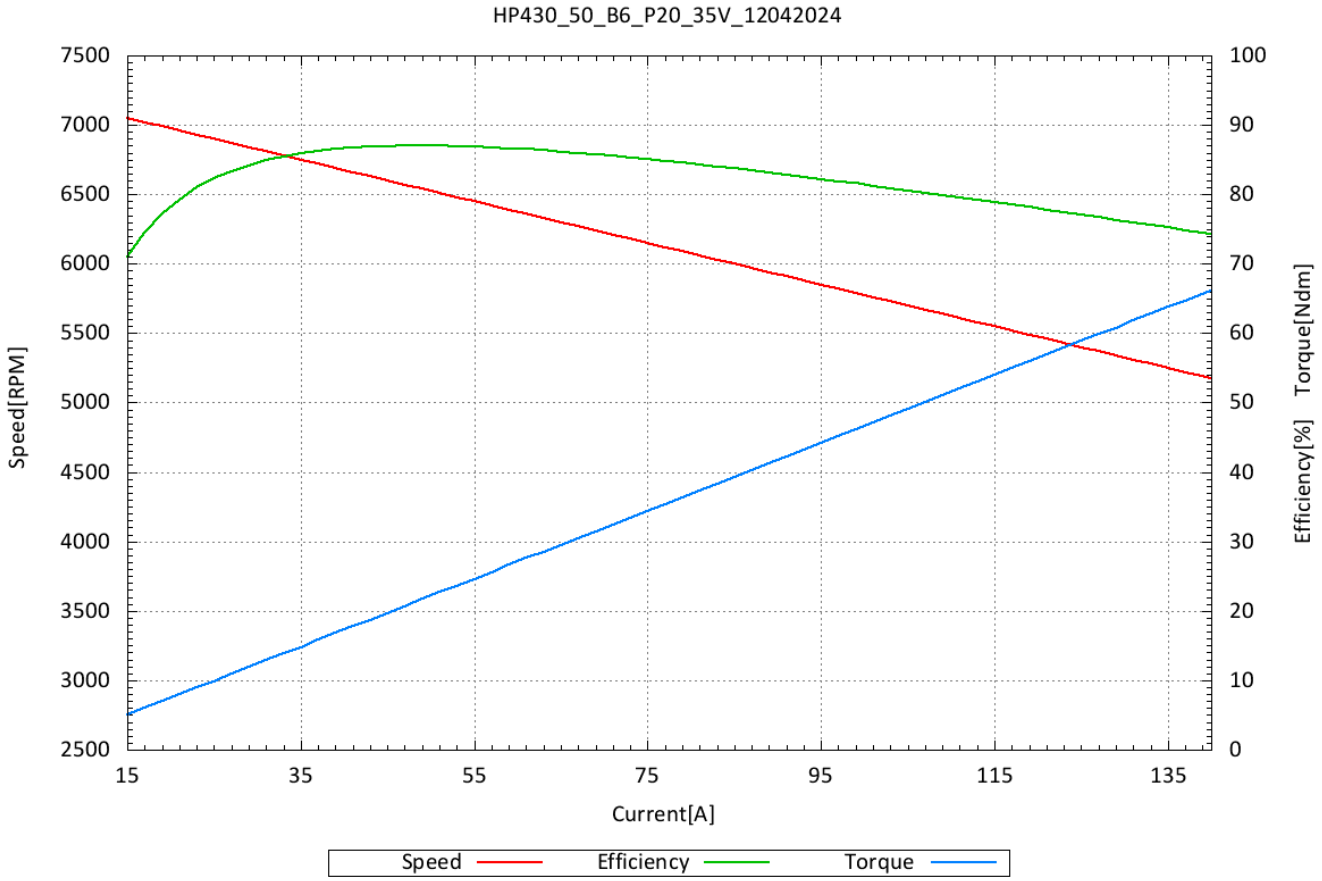
Io = current with no load

kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

[1] incl. Controller


HP430_50_B6_P20_35V_12042024
Speed[RPM]
Efficiency[%] Torque[Ndm]
Current[A]
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
100
90
80
70
60
50
40
30
20
10
0
15
35
55
75
95
115
135
Speed
Efficiency
Torque

Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B6 P20**

Date: 12.04.2024
Bearing type: regular
Controller: Common ESC

Measuring Parameter

Voltage: **40.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 8,191.9 [RPM] Io: 3.9 [A] kV: 206.4 [RPM/V] kn: -16.19 [RPM/A] kT: 4.77 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
39.9	15.0	8,012.0	598.5	444.7	53.0	74.30
39.9	17.0	7,979.6	678.3	522.3	62.5	77.00
39.9	19.0	7,947.3	758.1	600.0	72.1	79.15
39.9	21.0	7,914.9	837.9	676.3	81.6	80.72
39.9	23.0	7,882.5	917.7	752.8	91.2	82.03
39.9	25.0	7,850.1	997.5	827.8	100.7	82.99
39.9	27.0	7,817.8	1,077.3	902.2	110.2	83.74
39.9	29.0	7,785.4	1,157.1	976.7	119.8	84.41
39.9	31.0	7,753.0	1,236.9	1,049.8	129.3	84.87
39.9	33.0	7,720.7	1,316.7	1,123.0	138.9	85.29
39.9	35.0	7,688.3	1,396.5	1,194.8	148.4	85.56
39.8	37.0	7,655.9	1,472.6	1,265.9	157.9	85.97
39.8	39.0	7,623.5	1,552.2	1,337.2	167.5	86.15
39.8	41.0	7,591.2	1,631.8	1,407.1	177.0	86.23
39.8	43.0	7,558.8	1,711.4	1,476.3	186.5	86.26
39.8	45.0	7,526.4	1,791.0	1,545.6	196.1	86.30
39.8	47.0	7,494.1	1,870.6	1,613.5	205.6	86.26
39.8	49.0	7,461.7	1,950.2	1,681.5	215.2	86.22
39.8	51.0	7,429.3	2,029.8	1,748.2	224.7	86.12
39.8	53.0	7,396.9	2,109.4	1,814.1	234.2	86.00
39.8	55.0	7,364.6	2,189.0	1,880.2	243.8	85.89
39.8	57.0	7,332.2	2,268.6	1,944.9	253.3	85.73
39.8	59.0	7,299.8	2,348.2	2,009.7	262.9	85.58
39.8	61.0	7,267.5	2,427.8	2,073.1	272.4	85.39
39.7	63.0	7,235.1	2,501.1	2,135.8	281.9	85.40
39.7	65.0	7,202.7	2,580.5	2,198.7	291.5	85.20

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
39.7	67.0	7,170.4	2,659.9	2,260.2	301.0	84.97
39.7	69.0	7,138.0	2,739.3	2,321.0	310.5	84.73
39.7	71.0	7,105.6	2,818.7	2,381.9	320.1	84.50
39.7	73.0	7,073.2	2,898.1	2,441.4	329.6	84.24
39.7	75.0	7,040.9	2,977.5	2,501.0	339.2	84.00
39.7	77.0	7,008.5	3,056.9	2,559.2	348.7	83.72
39.7	79.0	6,976.1	3,136.3	2,616.8	358.2	83.44
39.7	81.0	6,943.8	3,215.7	2,674.5	367.8	83.17
39.7	83.0	6,911.4	3,295.1	2,730.7	377.3	82.87
39.7	85.0	6,879.0	3,374.5	2,786.4	386.8	82.57
39.6	87.0	6,846.6	3,445.2	2,842.1	396.4	82.49
39.6	89.0	6,814.3	3,524.4	2,896.5	405.9	82.18
39.6	91.0	6,781.9	3,603.6	2,950.9	415.5	81.89
39.6	93.0	6,749.5	3,682.8	3,003.9	425.0	81.57
39.6	95.0	6,717.2	3,762.0	3,056.4	434.5	81.24
39.6	97.0	6,684.8	3,841.2	3,108.8	444.1	80.93
39.6	99.0	6,652.4	3,920.4	3,159.9	453.6	80.60
39.6	101.0	6,620.0	3,999.6	3,211.1	463.2	80.29
39.6	103.0	6,587.7	4,078.8	3,261.0	472.7	79.95
39.6	105.0	6,555.3	4,158.0	3,310.2	482.2	79.61
39.6	107.0	6,522.9	4,237.2	3,359.4	491.8	79.28
39.6	109.0	6,490.6	4,316.4	3,407.3	501.3	78.94
39.5	111.0	6,458.2	4,384.5	3,454.5	510.8	78.79
39.5	113.0	6,425.8	4,463.5	3,501.8	520.4	78.45
39.5	115.0	6,393.5	4,542.5	3,547.8	529.9	78.10
39.5	117.0	6,361.1	4,621.5	3,593.8	539.5	77.76
39.5	119.0	6,328.7	4,700.5	3,638.4	549.0	77.41
39.5	121.0	6,296.3	4,779.5	3,682.5	558.5	77.05
39.5	123.0	6,264.0	4,858.5	3,726.5	568.1	76.70
39.5	125.0	6,231.6	4,937.5	3,769.3	577.6	76.34
39.5	127.0	6,199.2	5,016.5	3,812.0	587.2	75.99
39.5	129.0	6,166.9	5,095.5	3,853.5	596.7	75.62
39.5	131.0	6,134.5	5,174.5	3,894.2	606.2	75.26
39.5	133.0	6,102.1	5,253.5	3,935.0	615.8	74.90
39.5	135.0	6,069.7	5,332.5	3,974.5	625.3	74.53
39.4	137.0	6,037.4	5,397.8	4,013.4	634.8	74.35
39.4	139.0	6,005.0	5,476.6	4,052.3	644.4	73.99
39.4	141.0	5,972.6	5,555.4	4,089.8	653.9	73.62

nl = rpm with no load

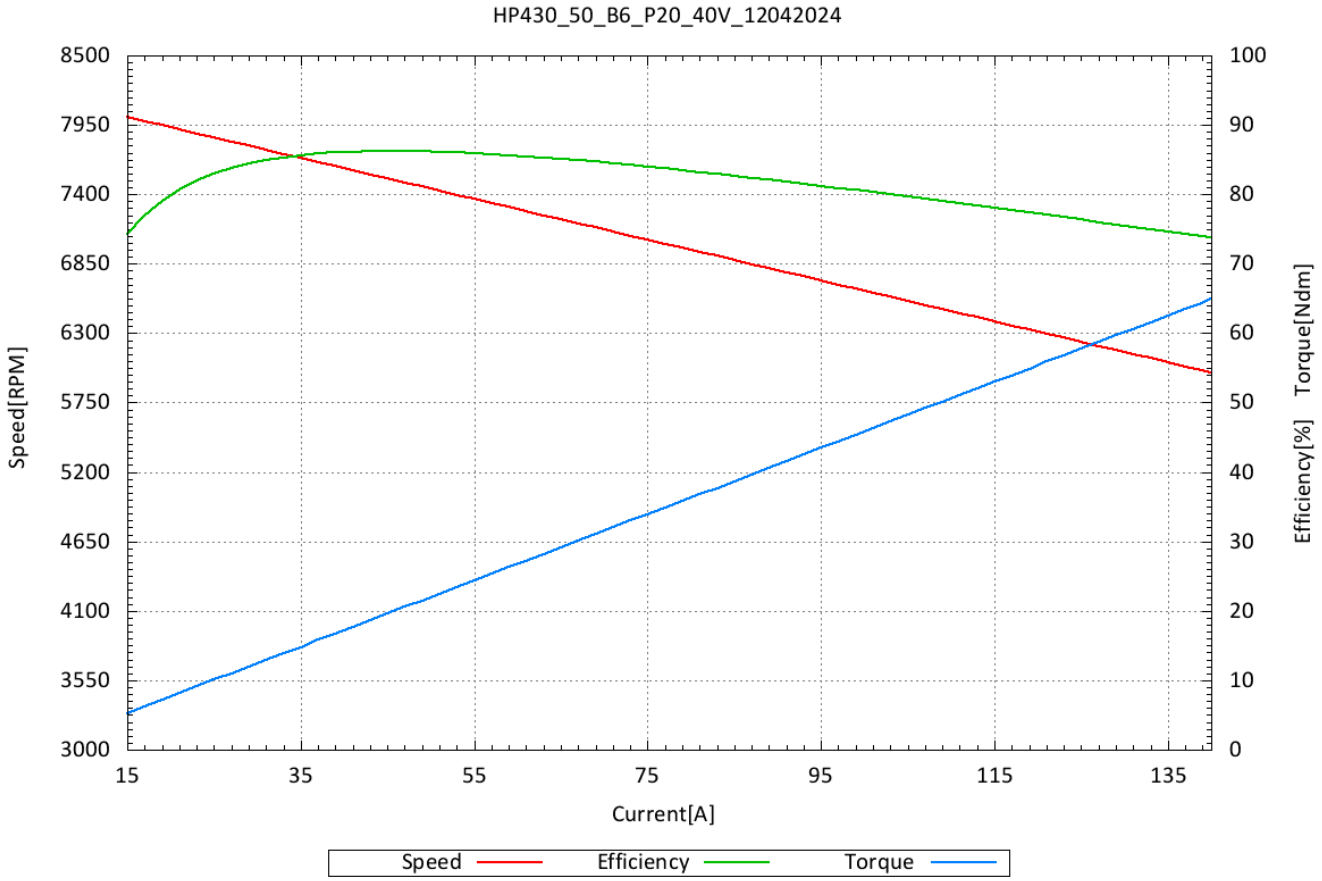
Io = current with no load

kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

[1] incl. Controller


HP430_50_B6_P20_40V_12042024
Speed[RPM]
Efficiency[%] Torque[Ndm]
Current[A]
8500
7950
7400
6850
6300
5750
5200
4650
4100
3550
3000
100
90
80
70
60
50
40
30
20
10
0
15
35
55
75
95
115
135
Speed
Efficiency
Torque