

Report calculated on Test Bench Results

Motor type: **NOVA 30-50-B4 P50**

Date: 12.04.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **40.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 1,487.9 [RPM] lo: 8.4 [A] kv: 37.7 [RPM/V] kn: -2.27 [RPM/A] kT: 28.53 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
39.9	30.0	1,452.9	1,197.0	935.7	615.0	78.17
39.9	35.0	1,438.5	1,396.5	1,141.4	757.7	81.73
39.9	40.0	1,424.5	1,596.0	1,343.2	900.4	84.16
39.9	45.0	1,410.8	1,795.5	1,540.9	1,043.0	85.82
39.9	50.0	1,397.4	1,995.0	1,735.1	1,185.7	86.97
39.9	55.0	1,384.2	2,194.5	1,925.6	1,328.4	87.74
39.9	60.0	1,371.4	2,394.0	2,112.5	1,471.0	88.24
39.9	65.0	1,358.7	2,593.5	2,296.0	1,613.7	88.53
39.9	70.0	1,346.3	2,793.0	2,476.2	1,756.4	88.66
39.8	75.0	1,334.2	2,985.0	2,653.4	1,899.1	88.89
39.8	80.0	1,322.2	3,184.0	2,826.9	2,041.7	88.79
39.8	85.0	1,310.4	3,383.0	2,997.5	2,184.4	88.61
39.8	90.0	1,298.8	3,582.0	3,165.1	2,327.1	88.36
39.8	95.0	1,287.3	3,781.0	3,329.3	2,469.7	88.05
39.8	100.0	1,276.0	3,980.0	3,490.8	2,612.4	87.71
39.8	105.0	1,264.8	4,179.0	3,649.1	2,755.1	87.32
39.8	110.0	1,253.7	4,378.0	3,804.3	2,897.7	86.90
39.8	115.0	1,242.7	4,577.0	3,956.6	3,040.4	86.45
39.7	120.0	1,231.8	4,764.0	4,106.0	3,183.1	86.19
39.7	125.0	1,221.0	4,962.5	4,252.3	3,325.7	85.69
39.7	130.0	1,210.2	5,161.0	4,395.6	3,468.4	85.17
39.7	135.0	1,199.4	5,359.5	4,535.6	3,611.1	84.63
39.7	140.0	1,188.7	5,558.0	4,672.6	3,753.7	84.07
39.7	145.0	1,178.0	5,756.5	4,806.6	3,896.4	83.50
39.7	150.0	1,167.2	5,955.0	4,936.9	4,039.1	82.90
39.7	155.0	1,156.5	6,153.5	5,064.4	4,181.7	82.30

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
39.7	160.0	1,145.7	6,352.0	5,188.3	4,324.4	81.68
39.7	165.0	1,134.8	6,550.5	5,308.5	4,467.1	81.04
39.6	170.0	1,123.9	6,732.0	5,425.5	4,609.8	80.59
39.6	175.0	1,112.9	6,930.0	5,538.6	4,752.4	79.92
39.6	180.0	1,101.8	7,128.0	5,648.0	4,895.1	79.24
39.6	185.0	1,090.6	7,326.0	5,753.5	5,037.8	78.54
39.6	190.0	1,079.2	7,524.0	5,854.6	5,180.4	77.81
39.6	195.0	1,067.7	7,722.0	5,951.7	5,323.1	77.07
39.6	200.0	1,056.1	7,920.0	6,044.9	5,465.8	76.32
39.6	205.0	1,044.3	8,118.0	6,133.3	5,608.4	75.55
39.6	210.0	1,032.2	8,316.0	6,216.5	5,751.1	74.75
39.6	215.0	1,020.0	8,514.0	6,295.4	5,893.8	73.94
39.5	220.0	1,007.6	8,690.0	6,369.3	6,036.4	73.30
39.5	225.0	994.9	8,887.5	6,437.7	6,179.1	72.44
39.5	230.0	982.0	9,085.0	6,501.0	6,321.8	71.56
39.5	235.0	968.8	9,282.5	6,558.3	6,464.4	70.65
39.5	240.0	955.3	9,480.0	6,609.7	6,607.1	69.72
39.5	245.0	941.6	9,677.5	6,655.6	6,749.8	68.77
39.5	250.0	927.5	9,875.0	6,694.5	6,892.5	67.79
39.5	255.0	913.1	10,072.5	6,726.9	7,035.1	66.79
39.5	260.0	898.3	10,270.0	6,752.1	7,177.8	65.75
39.4	265.0	883.2	10,441.0	6,770.6	7,320.5	64.85
39.4	270.0	867.8	10,638.0	6,782.2	7,463.1	63.75
39.4	275.0	851.9	10,835.0	6,785.2	7,605.8	62.62
39.4	280.0	835.6	11,032.0	6,780.2	7,748.5	61.46

nl = rpm with no load

lo = current with no load

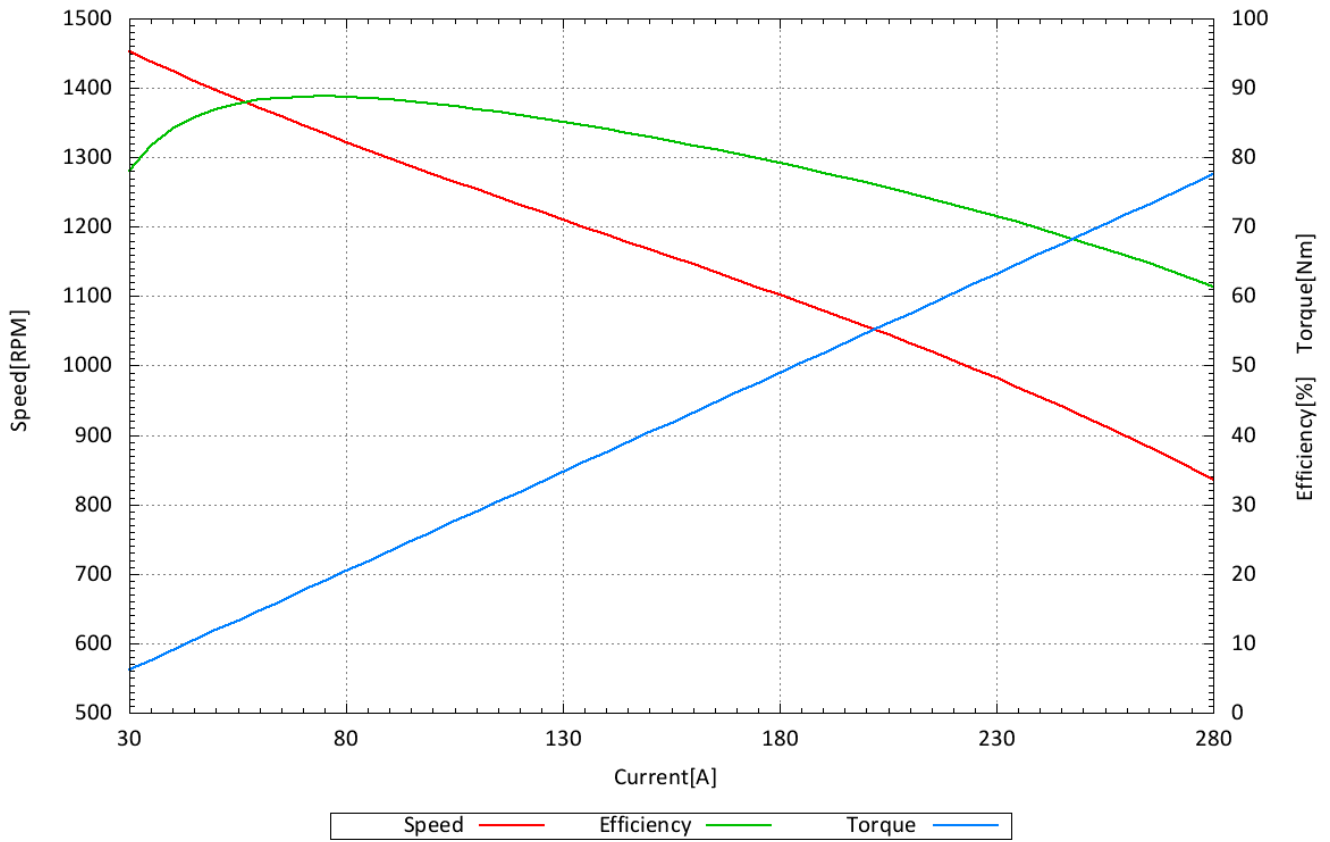
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP1450_50_B4_P50_40V_12042024



Report calculated on Test Bench Results

Motor type: **NOVA 30-50-B4 P50**

Date: 12.04.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **50.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 1,858.4 [RPM] lo: 8.5 [A] kv: 37.6 [RPM/V] kn: -2.56 [RPM/A] kT: 28.81 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
50.0	30.0	1,821.2	1,500.0	1,181.3	619.4	78.75
50.0	35.0	1,804.9	1,750.0	1,442.9	763.4	82.45
49.9	40.0	1,788.9	1,996.0	1,700.0	907.5	85.17
49.9	45.0	1,773.2	2,245.5	1,952.5	1,051.5	86.95
49.9	50.0	1,757.9	2,495.0	2,200.9	1,195.6	88.21
49.9	55.0	1,742.9	2,744.5	2,445.0	1,339.6	89.09
49.9	60.0	1,728.2	2,994.0	2,685.0	1,483.6	89.68
49.9	65.0	1,713.7	3,243.5	2,921.0	1,627.7	90.06
49.9	70.0	1,699.5	3,493.0	3,153.1	1,771.7	90.27
49.9	75.0	1,685.6	3,742.5	3,381.5	1,915.7	90.35
49.9	80.0	1,671.9	3,992.0	3,606.3	2,059.8	90.34
49.9	85.0	1,658.5	4,241.5	3,827.5	2,203.8	90.24
49.9	90.0	1,645.2	4,491.0	4,044.9	2,347.8	90.07
49.9	95.0	1,632.1	4,740.5	4,259.0	2,491.9	89.84
49.9	100.0	1,619.2	4,990.0	4,469.5	2,635.9	89.57
49.9	105.0	1,606.5	5,239.5	4,676.7	2,779.9	89.26
49.8	110.0	1,593.9	5,478.0	4,880.5	2,924.0	89.09
49.8	115.0	1,581.5	5,727.0	5,081.0	3,068.0	88.72
49.8	120.0	1,569.1	5,976.0	5,278.0	3,212.1	88.32
49.8	125.0	1,556.9	6,225.0	5,471.7	3,356.1	87.90
49.8	130.0	1,544.8	6,474.0	5,662.1	3,500.1	87.46
49.8	135.0	1,532.7	6,723.0	5,849.1	3,644.2	87.00
49.8	140.0	1,520.7	6,972.0	6,032.6	3,788.2	86.53
49.8	145.0	1,508.8	7,221.0	6,212.9	3,932.2	86.04
49.8	150.0	1,496.9	7,470.0	6,389.8	4,076.3	85.54
49.8	155.0	1,485.0	7,719.0	6,562.9	4,220.3	85.02

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
49.8	160.0	1,473.1	7,968.0	6,732.5	4,364.3	84.49
49.8	165.0	1,461.2	8,217.0	6,898.6	4,508.4	83.96
49.8	170.0	1,449.2	8,466.0	7,060.5	4,652.4	83.40
49.8	175.0	1,437.2	8,715.0	7,218.9	4,796.5	82.83
49.7	180.0	1,425.2	8,946.0	7,373.5	4,940.5	82.42
49.7	185.0	1,413.1	9,194.5	7,524.0	5,084.5	81.83
49.7	190.0	1,400.9	9,443.0	7,670.5	5,228.6	81.23
49.7	195.0	1,388.6	9,691.5	7,812.5	5,372.6	80.61
49.7	200.0	1,376.2	9,940.0	7,950.3	5,516.6	79.98
49.7	205.0	1,363.7	10,188.5	8,083.8	5,660.7	79.34
49.7	210.0	1,351.1	10,437.0	8,212.9	5,804.7	78.69
49.7	215.0	1,338.2	10,685.5	8,336.3	5,948.7	78.01
49.7	220.0	1,325.2	10,934.0	8,455.3	6,092.8	77.33
49.7	225.0	1,312.1	11,182.5	8,569.5	6,236.8	76.63
49.7	230.0	1,298.7	11,431.0	8,677.9	6,380.8	75.92
49.7	235.0	1,285.1	11,679.5	8,780.9	6,524.9	75.18
49.7	240.0	1,271.2	11,928.0	8,877.6	6,668.9	74.43
49.7	245.0	1,257.2	12,176.5	8,969.6	6,813.0	73.66
49.6	250.0	1,242.8	12,400.0	9,054.2	6,957.0	73.02
49.6	255.0	1,228.2	12,648.0	9,133.1	7,101.0	72.21
49.6	260.0	1,213.3	12,896.0	9,205.4	7,245.1	71.38
49.6	265.0	1,198.1	13,144.0	9,270.7	7,389.1	70.53
49.6	270.0	1,182.6	13,392.0	9,329.1	7,533.1	69.66
49.6	275.0	1,166.8	13,640.0	9,380.5	7,677.2	68.77
49.6	280.0	1,150.6	13,888.0	9,423.8	7,821.2	67.86

nl = rpm with no load

lo = current with no load

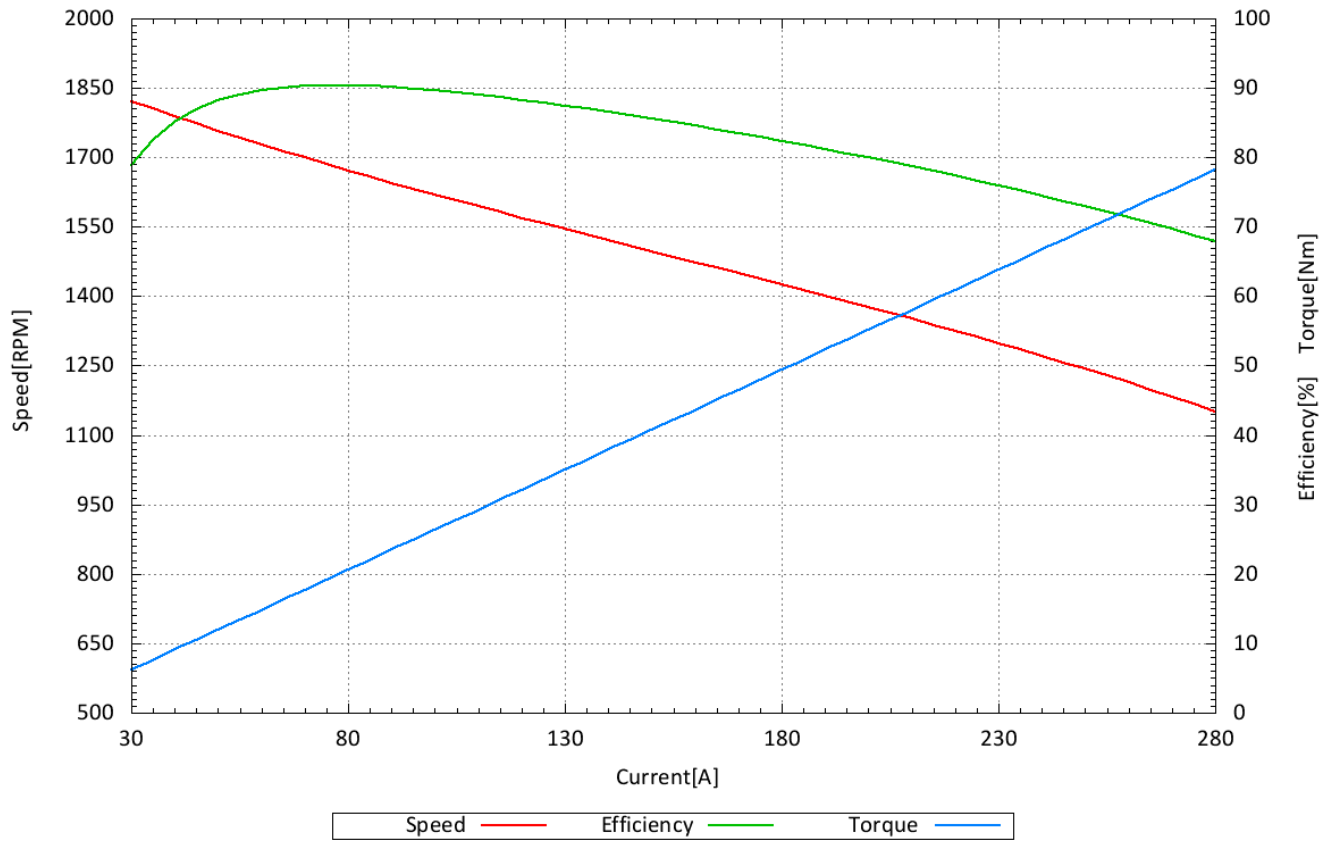
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP1450_50_B4_P50_50V_12042024



Report calculated on Test Bench Results

Motor type: **NOVA 30-50-B4 P50**

Date: 12.04.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **60.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 2,224.2 [RPM] lo: 9.7 [A] kv: 37.5 [RPM/V] kn: -2.85 [RPM/A] kT: 28.99 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
59.9	30.0	2,187.9	1,797.0	1,346.5	587.7	74.93
59.9	35.0	2,169.5	2,096.5	1,664.4	732.6	79.39
59.9	40.0	2,151.4	2,396.0	1,977.0	877.5	82.51
59.9	45.0	2,133.8	2,695.5	2,284.8	1,022.5	84.76
59.9	50.0	2,116.6	2,995.0	2,587.5	1,167.4	86.40
59.9	55.0	2,099.7	3,294.5	2,885.7	1,312.4	87.59
59.9	60.0	2,083.2	3,594.0	3,179.1	1,457.3	88.46
59.9	65.0	2,067.0	3,893.5	3,468.1	1,602.2	89.07
59.9	70.0	2,051.1	4,193.0	3,752.8	1,747.2	89.50
59.9	75.0	2,035.5	4,492.5	4,033.1	1,892.1	89.78
59.9	80.0	2,020.2	4,792.0	4,309.4	2,037.0	89.93
59.8	85.0	2,005.2	5,083.0	4,581.9	2,182.0	90.14
59.8	90.0	1,990.4	5,382.0	4,850.1	2,326.9	90.12
59.8	95.0	1,975.8	5,681.0	5,114.5	2,471.9	90.03
59.8	100.0	1,961.4	5,980.0	5,374.8	2,616.8	89.88
59.8	105.0	1,947.3	6,279.0	5,631.7	2,761.7	89.69
59.8	110.0	1,933.3	6,578.0	5,884.8	2,906.7	89.46
59.8	115.0	1,919.5	6,877.0	6,134.0	3,051.6	89.20
59.8	120.0	1,905.8	7,176.0	6,379.6	3,196.6	88.90
59.8	125.0	1,892.3	7,475.0	6,621.6	3,341.5	88.58
59.8	130.0	1,878.8	7,774.0	6,859.4	3,486.4	88.24
59.7	135.0	1,865.5	8,059.5	7,094.1	3,631.4	88.02
59.7	140.0	1,852.2	8,358.0	7,324.6	3,776.3	87.64
59.7	145.0	1,839.0	8,656.5	7,551.6	3,921.3	87.24
59.7	150.0	1,825.9	8,955.0	7,774.9	4,066.2	86.82
59.7	155.0	1,812.8	9,253.5	7,994.2	4,211.1	86.39

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
59.7	160.0	1,799.6	9,552.0	8,209.2	4,356.1	85.94
59.7	165.0	1,786.5	9,850.5	8,420.6	4,501.0	85.48
59.7	170.0	1,773.4	10,149.0	8,627.9	4,645.9	85.01
59.7	175.0	1,760.2	10,447.5	8,831.0	4,790.9	84.53
59.7	180.0	1,746.9	10,746.0	9,029.3	4,935.8	84.02
59.7	185.0	1,733.6	11,044.5	9,223.8	5,080.8	83.51
59.6	190.0	1,720.2	11,324.0	9,413.5	5,225.7	83.13
59.6	195.0	1,706.6	11,622.0	9,598.1	5,370.6	82.59
59.6	200.0	1,693.0	11,920.0	9,778.6	5,515.6	82.04
59.6	205.0	1,679.2	12,218.0	9,953.7	5,660.5	81.47
59.6	210.0	1,665.2	12,516.0	10,123.6	5,805.5	80.89
59.6	215.0	1,651.1	12,814.0	10,288.4	5,950.4	80.29
59.6	220.0	1,636.8	13,112.0	10,447.7	6,095.3	79.68
59.6	225.0	1,622.2	13,410.0	10,600.8	6,240.3	79.05
59.6	230.0	1,607.5	13,708.0	10,748.7	6,385.2	78.41
59.6	235.0	1,592.5	14,006.0	10,890.0	6,530.1	77.75
59.6	240.0	1,577.2	14,304.0	11,024.9	6,675.1	77.08
59.5	245.0	1,561.6	14,577.5	11,152.8	6,820.0	76.51
59.5	250.0	1,545.8	14,875.0	11,274.6	6,965.0	75.80
59.5	255.0	1,529.6	15,172.5	11,388.6	7,109.9	75.06
59.5	260.0	1,513.1	15,470.0	11,495.3	7,254.8	74.31
59.5	265.0	1,496.3	15,767.5	11,594.9	7,399.8	73.54
59.5	270.0	1,479.1	16,065.0	11,686.1	7,544.7	72.74
59.5	275.0	1,461.5	16,362.5	11,768.9	7,689.7	71.93
59.5	280.0	1,443.6	16,660.0	11,843.8	7,834.6	71.09

nl = rpm with no load

lo = current with no load

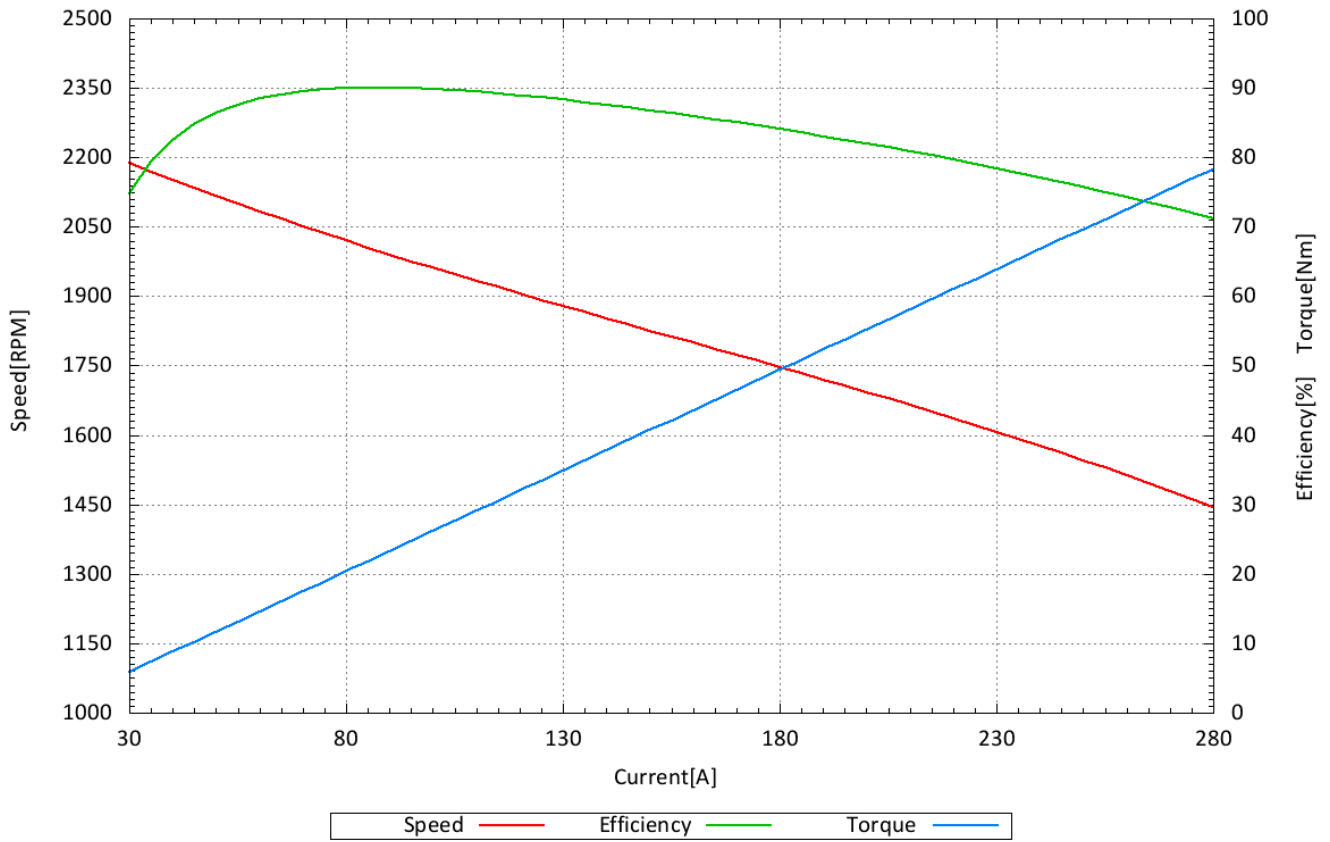
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP1450_50_B4_P50_60V_12042024



Report calculated on Test Bench Results

Motor type: **NOVA 30-50-B4 P50**

Date: 12.04.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **70.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 2,582.5 [RPM] lo: 10.2 [A] kv: 37.3 [RPM/V] kn: -3.07 [RPM/A] kT: 29.10 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
70.0	30.0	2,545.5	2,100.0	1,537.8	576.9	73.23
70.0	35.0	2,525.5	2,450.0	1,910.5	722.4	77.98
69.9	40.0	2,505.9	2,796.0	2,277.5	867.9	81.46
69.9	45.0	2,486.8	3,145.5	2,639.1	1,013.4	83.90
69.9	50.0	2,468.0	3,495.0	2,995.2	1,158.9	85.70
69.9	55.0	2,449.7	3,844.5	3,346.2	1,304.4	87.04
69.9	60.0	2,431.8	4,194.0	3,692.3	1,449.9	88.04
69.9	65.0	2,414.2	4,543.5	4,033.4	1,595.4	88.77
69.9	70.0	2,397.0	4,893.0	4,369.9	1,740.9	89.31
69.9	75.0	2,380.1	5,242.5	4,701.7	1,886.4	89.68
69.9	80.0	2,363.6	5,592.0	5,029.3	2,031.9	89.94
69.9	85.0	2,347.3	5,941.5	5,352.0	2,177.3	90.08
69.9	90.0	2,331.3	6,291.0	5,670.7	2,322.8	90.14
69.9	95.0	2,315.5	6,640.5	5,985.1	2,468.3	90.13
69.9	100.0	2,300.0	6,990.0	6,295.5	2,613.8	90.06
69.9	105.0	2,284.7	7,339.5	6,601.7	2,759.3	89.95
69.9	110.0	2,269.7	7,689.0	6,904.2	2,904.8	89.79
69.8	115.0	2,254.7	8,027.0	7,202.1	3,050.3	89.72
69.8	120.0	2,240.0	8,376.0	7,496.5	3,195.8	89.50
69.8	125.0	2,225.4	8,725.0	7,786.7	3,341.3	89.25
69.8	130.0	2,211.0	9,074.0	8,073.2	3,486.8	88.97
69.8	135.0	2,196.6	9,423.0	8,355.3	3,632.3	88.67
69.8	140.0	2,182.4	9,772.0	8,633.8	3,777.8	88.35
69.8	145.0	2,168.2	10,121.0	8,908.0	3,923.3	88.01
69.8	150.0	2,154.0	10,470.0	9,177.8	4,068.8	87.66
69.8	155.0	2,140.0	10,819.0	9,444.3	4,214.3	87.29

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
69.8	160.0	2,125.9	11,168.0	9,705.9	4,359.8	86.91
69.8	165.0	2,111.8	11,517.0	9,963.3	4,505.3	86.51
69.8	170.0	2,097.7	11,866.0	10,216.4	4,650.8	86.10
69.8	175.0	2,083.6	12,215.0	10,465.0	4,796.2	85.67
69.8	180.0	2,069.5	12,564.0	10,709.5	4,941.7	85.24
69.8	185.0	2,055.2	12,913.0	10,948.7	5,087.2	84.79
69.7	190.0	2,040.9	13,243.0	11,183.5	5,232.7	84.45
69.7	195.0	2,026.5	13,591.5	11,413.3	5,378.2	83.97
69.7	200.0	2,011.9	13,940.0	11,637.6	5,523.7	83.48
69.7	205.0	1,997.2	14,288.5	11,856.9	5,669.2	82.98
69.7	210.0	1,982.3	14,637.0	12,070.5	5,814.7	82.47
69.7	215.0	1,967.3	14,985.5	12,278.9	5,960.2	81.94
69.7	220.0	1,952.0	15,334.0	12,480.8	6,105.7	81.39
69.7	225.0	1,936.6	15,682.5	12,677.5	6,251.2	80.84
69.7	230.0	1,920.9	16,031.0	12,867.4	6,396.7	80.27
69.7	235.0	1,904.9	16,379.5	13,050.4	6,542.2	79.68
69.7	240.0	1,888.7	16,728.0	13,227.2	6,687.7	79.07
69.7	245.0	1,872.2	17,076.5	13,396.9	6,833.2	78.45
69.7	250.0	1,855.4	17,425.0	13,559.4	6,978.7	77.82
69.7	255.0	1,838.2	17,773.5	13,713.8	7,124.2	77.16
69.7	260.0	1,820.8	18,122.0	13,861.2	7,269.6	76.49
69.7	265.0	1,802.9	18,470.5	13,999.7	7,415.1	75.79
69.6	270.0	1,784.7	18,792.0	14,130.3	7,560.6	75.19
69.6	275.0	1,766.1	19,140.0	14,252.1	7,706.1	74.46
69.6	280.0	1,747.0	19,488.0	14,364.1	7,851.6	73.71

nl = rpm with no load

lo = current with no load

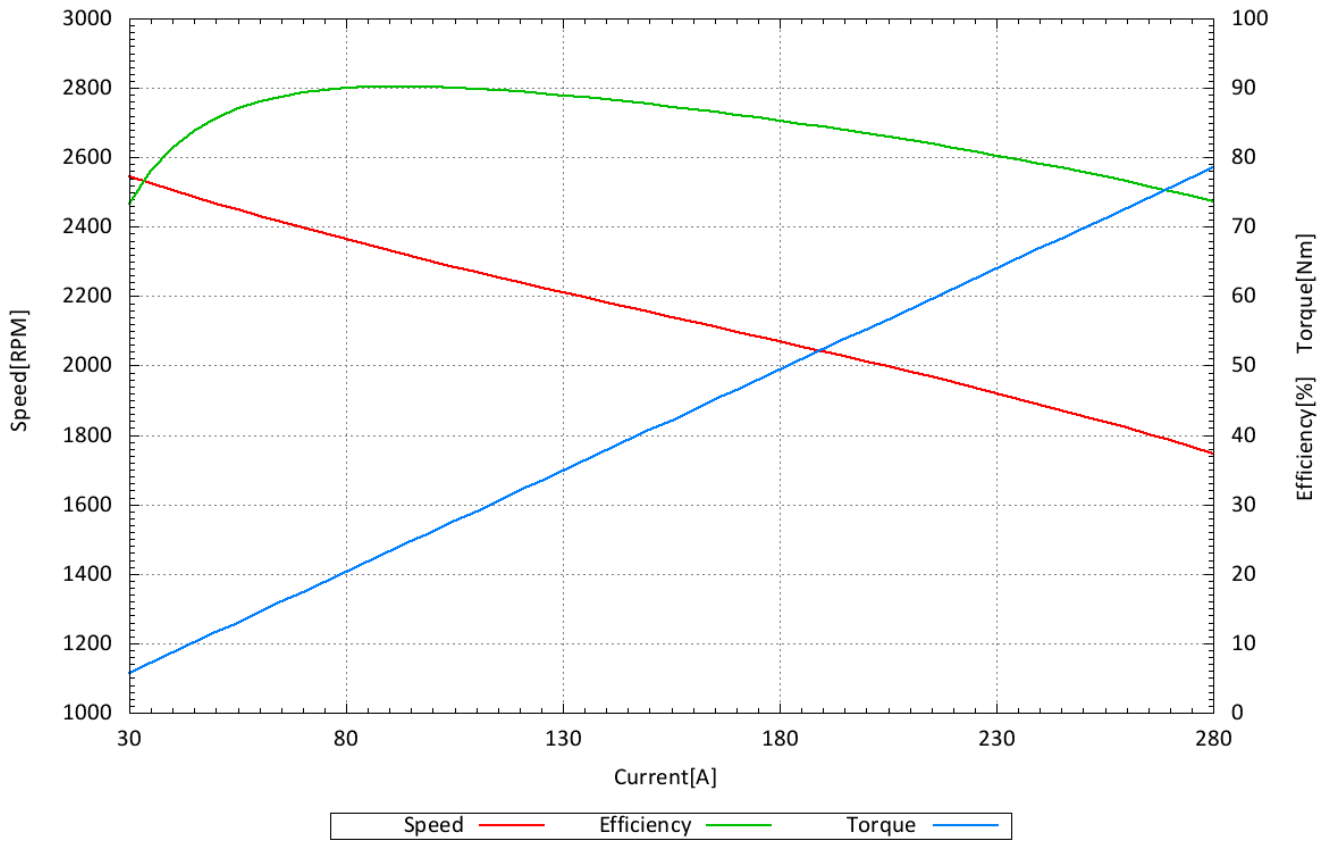
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP1450_50_B4_P50_70V_12042024



Report calculated on Test Bench Results

Motor type: **NOVA 30-50-B4 P50**

Date: 12.04.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **80.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 2,950.9 [RPM] lo: 9.8 [A] kv: 37.3 [RPM/V] kn: -3.37 [RPM/A] kT: 29.11 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
80.0	30.0	2,909.3	2,400.0	1,792.0	588.2	74.67
80.0	35.0	2,887.4	2,800.0	2,218.8	733.8	79.24
80.0	40.0	2,866.0	3,200.0	2,639.0	879.3	82.47
79.9	45.0	2,845.0	3,595.5	3,053.5	1,024.9	84.92
79.9	50.0	2,824.5	3,995.0	3,462.1	1,170.5	86.66
79.9	55.0	2,804.4	4,394.5	3,864.8	1,316.0	87.95
79.9	60.0	2,784.7	4,794.0	4,262.2	1,461.6	88.91
79.9	65.0	2,765.4	5,193.5	4,654.3	1,607.2	89.62
79.9	70.0	2,746.4	5,593.0	5,041.1	1,752.8	90.13
79.9	75.0	2,727.8	5,992.5	5,422.6	1,898.3	90.49
79.9	80.0	2,709.6	6,392.0	5,799.5	2,043.9	90.73
79.9	85.0	2,691.6	6,791.5	6,171.4	2,189.5	90.87
79.9	90.0	2,674.0	7,191.0	6,538.8	2,335.1	90.93
79.9	95.0	2,656.6	7,590.5	6,901.0	2,480.6	90.92
79.9	100.0	2,639.5	7,990.0	7,259.0	2,626.2	90.85
79.9	105.0	2,622.7	8,389.5	7,612.7	2,771.8	90.74
79.9	110.0	2,606.1	8,789.0	7,961.6	2,917.3	90.59
79.9	115.0	2,589.7	9,188.5	8,306.4	3,062.9	90.40
79.9	120.0	2,573.5	9,588.0	8,646.8	3,208.5	90.18
79.9	125.0	2,557.5	9,987.5	8,983.0	3,354.1	89.94
79.9	130.0	2,541.6	10,387.0	9,314.4	3,499.6	89.67
79.8	135.0	2,525.9	10,773.0	9,642.0	3,645.2	89.50
79.8	140.0	2,510.3	11,172.0	9,965.2	3,790.8	89.20
79.8	145.0	2,494.9	11,571.0	10,284.4	3,936.4	88.88
79.8	150.0	2,479.5	11,970.0	10,598.8	4,081.9	88.54
79.8	155.0	2,464.2	12,369.0	10,909.1	4,227.5	88.20

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
79.8	160.0	2,448.9	12,768.0	11,214.7	4,373.1	87.83
79.8	165.0	2,433.7	13,167.0	11,515.9	4,518.6	87.46
79.8	170.0	2,418.5	13,566.0	11,812.8	4,664.2	87.08
79.8	175.0	2,403.4	13,965.0	12,105.5	4,809.8	86.68
79.8	180.0	2,388.2	14,364.0	12,393.0	4,955.4	86.28
79.8	185.0	2,373.0	14,763.0	12,675.7	5,100.9	85.86
79.8	190.0	2,357.7	15,162.0	12,953.5	5,246.5	85.43
79.8	195.0	2,342.4	15,561.0	13,226.6	5,392.1	85.00
79.8	200.0	2,327.0	15,960.0	13,494.4	5,537.7	84.55
79.8	205.0	2,311.5	16,359.0	13,756.7	5,683.2	84.09
79.8	210.0	2,295.9	16,758.0	14,014.0	5,828.8	83.63
79.8	215.0	2,280.2	17,157.0	14,265.8	5,974.4	83.15
79.8	220.0	2,264.3	17,556.0	14,511.3	6,119.9	82.66
79.7	225.0	2,248.2	17,932.5	14,750.9	6,265.5	82.26
79.7	230.0	2,232.0	18,331.0	14,985.0	6,411.1	81.75
79.7	235.0	2,215.5	18,729.5	15,212.0	6,556.7	81.22
79.7	240.0	2,198.9	19,128.0	15,433.0	6,702.2	80.68
79.7	245.0	2,182.0	19,526.5	15,647.1	6,847.8	80.13
79.7	250.0	2,164.8	19,925.0	15,853.9	6,993.4	79.57
79.7	255.0	2,147.4	20,323.5	16,053.8	7,139.0	78.99
79.7	260.0	2,129.7	20,722.0	16,246.0	7,284.5	78.40
79.7	265.0	2,111.7	21,120.5	16,430.7	7,430.1	77.79
79.7	270.0	2,093.4	21,519.0	16,607.5	7,575.7	77.18
79.7	275.0	2,074.7	21,917.5	16,775.2	7,721.2	76.54
79.7	280.0	2,055.7	22,316.0	16,935.0	7,866.8	75.89

nl = rpm with no load

lo = current with no load

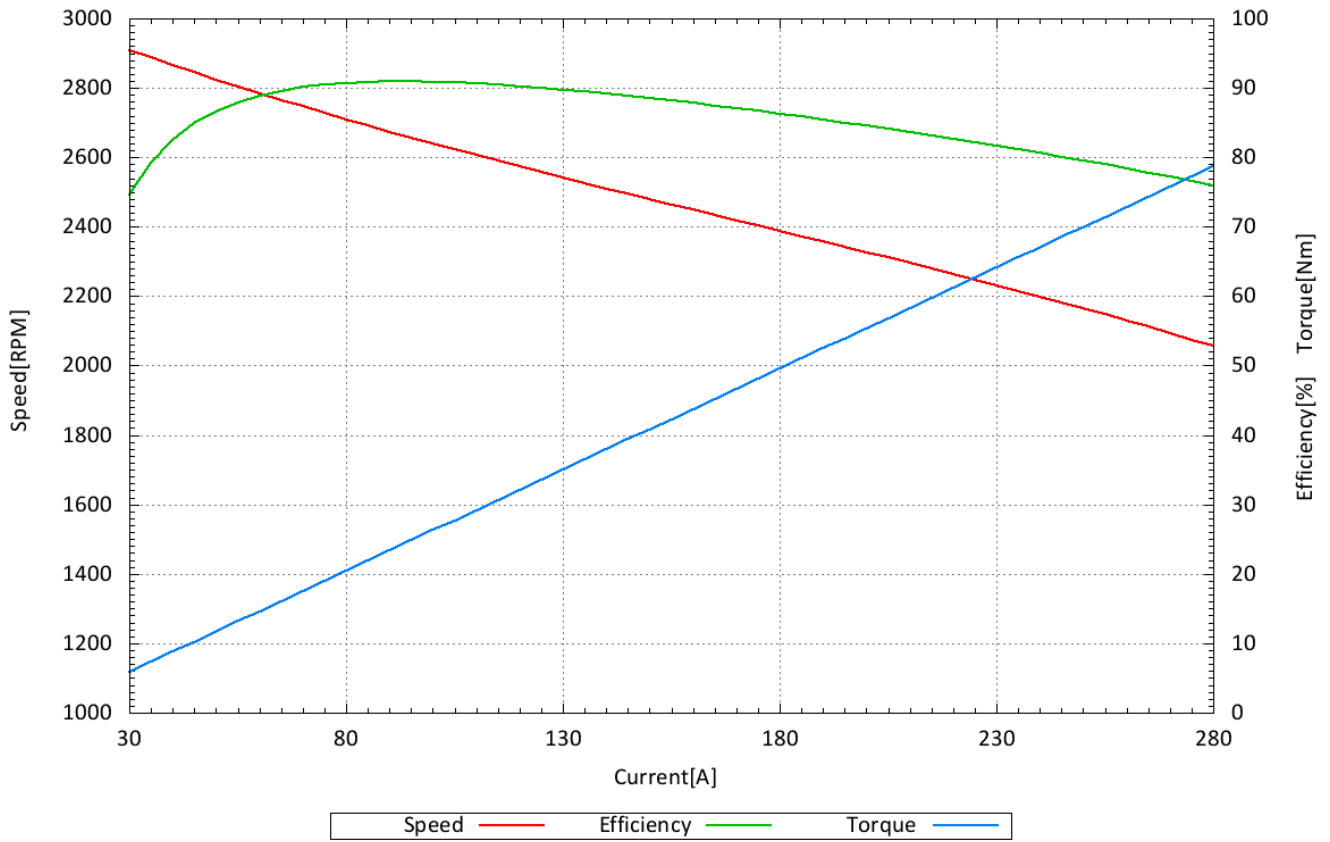
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP1450_50_B4_P50_80V_12042024



Report calculated on Test Bench Results

Motor type: **NOVA 30-50-B4 P50**

Date: 12.04.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **90.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 3,312.5 [RPM] lo: 10.9 [A] kv: 37.2 [RPM/V] kn: -3.65 [RPM/A] kT: 29.25 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
90.0	30.0	3,272.5	2,700.0	1,918.8	559.9	71.06
89.9	35.0	3,248.6	3,146.5	2,402.4	706.2	76.35
89.9	40.0	3,225.3	3,596.0	2,879.3	852.5	80.07
89.9	45.0	3,202.5	4,045.5	3,349.3	998.7	82.79
89.9	50.0	3,180.1	4,495.0	3,813.1	1,145.0	84.83
89.9	55.0	3,158.2	4,944.5	4,270.7	1,291.3	86.37
89.9	60.0	3,136.8	5,394.0	4,722.3	1,437.6	87.55
89.9	65.0	3,115.7	5,843.5	5,167.5	1,583.8	88.43
89.9	70.0	3,095.1	6,293.0	5,607.6	1,730.1	89.11
89.9	75.0	3,074.9	6,742.5	6,042.1	1,876.4	89.61
89.9	80.0	3,055.1	7,192.0	6,470.9	2,022.6	89.97
89.9	85.0	3,035.6	7,641.5	6,894.7	2,168.9	90.23
89.9	90.0	3,016.4	8,091.0	7,313.2	2,315.2	90.39
89.9	95.0	2,997.6	8,540.5	7,726.8	2,461.5	90.47
89.9	100.0	2,979.0	8,990.0	8,135.0	2,607.7	90.49
89.8	105.0	2,960.8	9,429.0	8,538.9	2,754.0	90.56
89.8	110.0	2,942.8	9,878.0	8,937.8	2,900.3	90.48
89.8	115.0	2,925.0	10,327.0	9,331.9	3,046.6	90.36
89.8	120.0	2,907.5	10,776.0	9,721.2	3,192.8	90.21
89.8	125.0	2,890.2	11,225.0	10,106.2	3,339.1	90.03
89.8	130.0	2,873.1	11,674.0	10,486.5	3,485.4	89.83
89.8	135.0	2,856.1	12,123.0	10,861.8	3,631.6	89.60
89.8	140.0	2,839.4	12,572.0	11,233.3	3,777.9	89.35
89.8	145.0	2,822.7	13,021.0	11,599.6	3,924.2	89.08
89.8	150.0	2,806.2	13,470.0	11,961.8	4,070.5	88.80
89.8	155.0	2,789.7	13,919.0	12,318.5	4,216.7	88.50

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
89.8	160.0	2,773.4	14,368.0	12,671.5	4,363.0	88.19
89.8	165.0	2,757.1	14,817.0	13,019.4	4,509.3	87.87
89.7	170.0	2,740.8	15,249.0	13,362.3	4,655.6	87.63
89.7	175.0	2,724.6	15,697.5	13,700.5	4,801.8	87.28
89.7	180.0	2,708.4	16,146.0	14,033.9	4,948.1	86.92
89.7	185.0	2,692.2	16,594.5	14,362.5	5,094.4	86.55
89.7	190.0	2,676.0	17,043.0	14,685.7	5,240.6	86.17
89.7	195.0	2,659.7	17,491.5	15,003.8	5,386.9	85.78
89.7	200.0	2,643.4	17,940.0	15,316.8	5,533.2	85.38
89.7	205.0	2,626.9	18,388.5	15,623.6	5,679.5	84.96
89.7	210.0	2,610.4	18,837.0	15,925.2	5,825.7	84.54
89.7	215.0	2,593.8	19,285.5	16,221.3	5,972.0	84.11
89.7	220.0	2,577.0	19,734.0	16,511.0	6,118.3	83.67
89.7	225.0	2,560.1	20,182.5	16,795.0	6,264.6	83.22
89.7	230.0	2,543.0	20,631.0	17,072.1	6,410.8	82.75
89.6	235.0	2,525.7	21,056.0	17,342.9	6,557.1	82.37
89.6	240.0	2,508.2	21,504.0	17,607.0	6,703.4	81.88
89.6	245.0	2,490.5	21,952.0	17,864.1	6,849.6	81.38
89.6	250.0	2,472.5	22,400.0	18,113.8	6,995.9	80.86
89.6	255.0	2,454.3	22,848.0	18,356.4	7,142.2	80.34
89.6	260.0	2,435.8	23,296.0	18,591.2	7,288.5	79.80
89.6	265.0	2,417.0	23,744.0	18,817.8	7,434.7	79.25
89.6	270.0	2,397.8	24,192.0	19,035.7	7,581.0	78.69
89.6	275.0	2,378.4	24,640.0	19,246.0	7,727.3	78.11
89.6	280.0	2,358.6	25,088.0	19,447.2	7,873.6	77.52

nl = rpm with no load

lo = current with no load

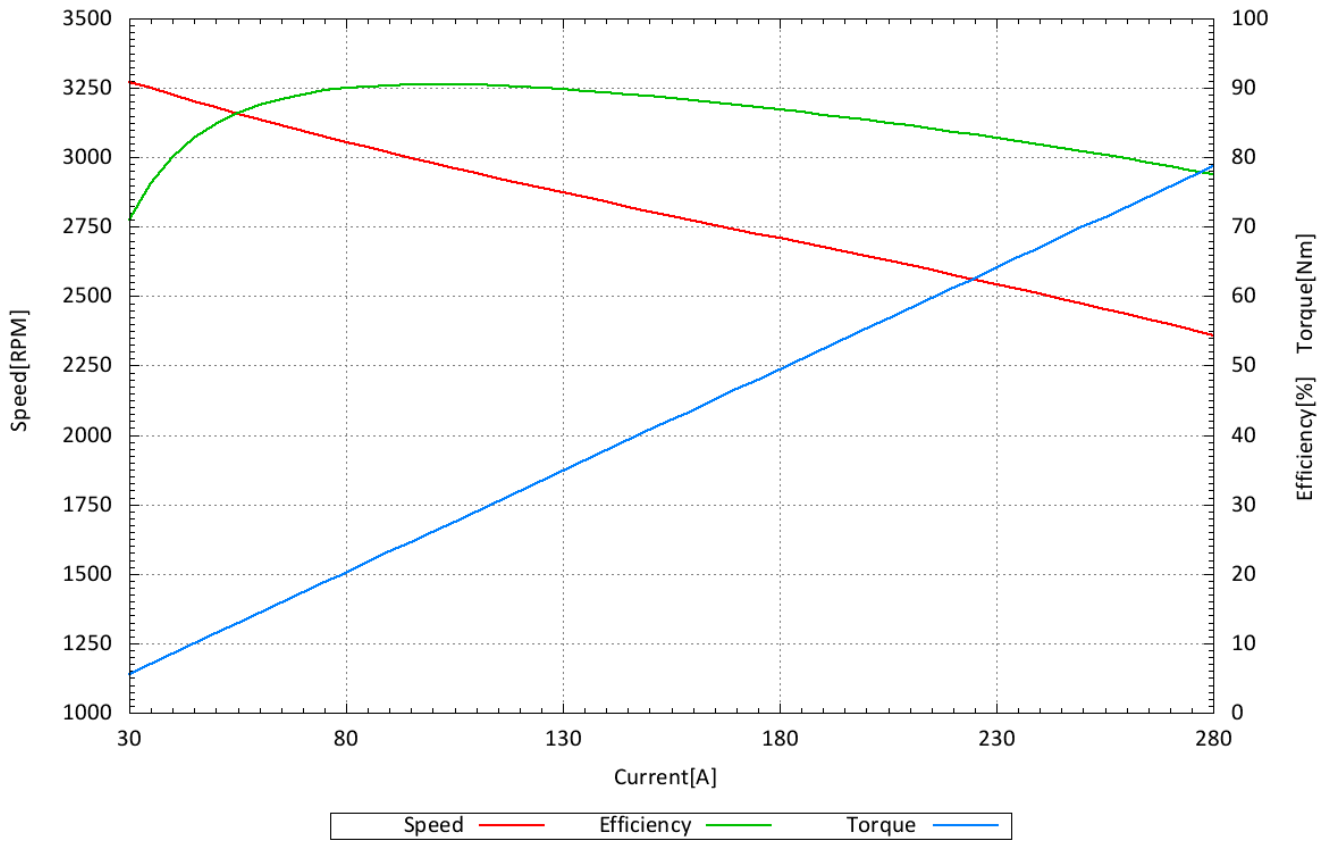
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP1450_50_B4_P50_90V_12042024



Report calculated on Test Bench Results

Motor type: **NOVA 30-50-B4 P50**

Date: 12.04.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **100.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 3,682.4 [RPM] lo: 11.0 [A] kv: 37.3 [RPM/V] kn: -3.93 [RPM/A] kT: 29.32 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
100.0	30.0	3,642.6	3,000.0	2,122.0	556.3	70.73
100.0	35.0	3,616.3	3,500.0	2,661.9	702.9	76.05
100.0	40.0	3,590.7	4,000.0	3,194.6	849.6	79.87
100.0	45.0	3,565.6	4,500.0	3,719.7	996.2	82.66
100.0	50.0	3,541.1	5,000.0	4,237.8	1,142.8	84.76
100.0	55.0	3,517.2	5,500.0	4,749.1	1,289.4	86.35
100.0	60.0	3,493.8	6,000.0	5,253.9	1,436.0	87.56
100.0	65.0	3,471.0	6,500.0	5,752.8	1,582.7	88.51
100.0	70.0	3,448.6	7,000.0	6,245.1	1,729.3	89.22
100.0	75.0	3,426.7	7,500.0	6,731.5	1,875.9	89.75
99.9	80.0	3,405.2	7,992.0	7,212.1	2,022.5	90.24
99.9	85.0	3,384.2	8,491.5	7,687.5	2,169.2	90.53
99.9	90.0	3,363.5	8,991.0	8,156.8	2,315.8	90.72
99.9	95.0	3,343.2	9,490.5	8,620.8	2,462.4	90.84
99.9	100.0	3,323.3	9,990.0	9,079.7	2,609.0	90.89
99.9	105.0	3,303.6	10,489.5	9,533.1	2,755.6	90.88
99.9	110.0	3,284.3	10,989.0	9,981.9	2,902.3	90.84
99.9	115.0	3,265.3	11,488.5	10,425.5	3,048.9	90.75
99.9	120.0	3,246.5	11,988.0	10,863.8	3,195.5	90.62
99.9	125.0	3,227.9	12,487.5	11,297.1	3,342.1	90.47
99.9	130.0	3,209.6	12,987.0	11,726.2	3,488.8	90.29
99.9	135.0	3,191.4	13,486.5	12,149.6	3,635.4	90.09
99.9	140.0	3,173.4	13,986.0	12,568.3	3,782.0	89.86
99.9	145.0	3,155.5	14,485.5	12,981.8	3,928.6	89.62
99.9	150.0	3,137.7	14,985.0	13,390.6	4,075.3	89.36
99.9	155.0	3,120.0	15,484.5	13,794.0	4,221.9	89.08

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
99.9	160.0	3,102.4	15,984.0	14,192.5	4,368.5	88.79
99.9	165.0	3,084.8	16,483.5	14,585.6	4,515.1	88.49
99.9	170.0	3,067.3	16,983.0	14,973.7	4,661.7	88.17
99.9	175.0	3,049.7	17,482.5	15,356.3	4,808.4	87.84
99.9	180.0	3,032.1	17,982.0	15,733.2	4,955.0	87.49
99.9	185.0	3,014.4	18,481.5	16,104.1	5,101.6	87.14
99.9	190.0	2,996.7	18,981.0	16,469.6	5,248.2	86.77
99.9	195.0	2,978.8	19,480.5	16,828.8	5,394.9	86.39
99.9	200.0	2,960.9	19,980.0	17,182.2	5,541.5	86.00
99.9	205.0	2,942.7	20,479.5	17,528.4	5,688.1	85.59
99.9	210.0	2,924.4	20,979.0	17,868.3	5,834.7	85.17
99.9	215.0	2,906.0	21,478.5	18,202.0	5,981.3	84.75
99.9	220.0	2,887.2	21,978.0	18,527.8	6,128.0	84.30
99.9	225.0	2,868.3	22,477.5	18,846.9	6,274.6	83.85
99.9	230.0	2,849.1	22,977.0	19,158.1	6,421.2	83.38
99.8	235.0	2,829.6	23,453.0	19,461.4	6,567.8	82.98
99.8	240.0	2,809.7	23,952.0	19,756.1	6,714.5	82.48
99.8	245.0	2,789.6	24,451.0	20,043.1	6,861.1	81.97
99.8	250.0	2,769.0	24,950.0	20,320.2	7,007.7	81.44
99.8	255.0	2,748.1	25,449.0	20,588.7	7,154.3	80.90
99.8	260.0	2,726.8	25,948.0	20,847.7	7,300.9	80.34
99.8	265.0	2,705.1	26,447.0	21,097.4	7,447.6	79.77
99.8	270.0	2,682.9	26,946.0	21,336.1	7,594.2	79.18
99.8	275.0	2,660.2	27,445.0	21,564.0	7,740.8	78.57
99.8	280.0	2,637.0	27,944.0	21,780.7	7,887.4	77.94

nl = rpm with no load

lo = current with no load

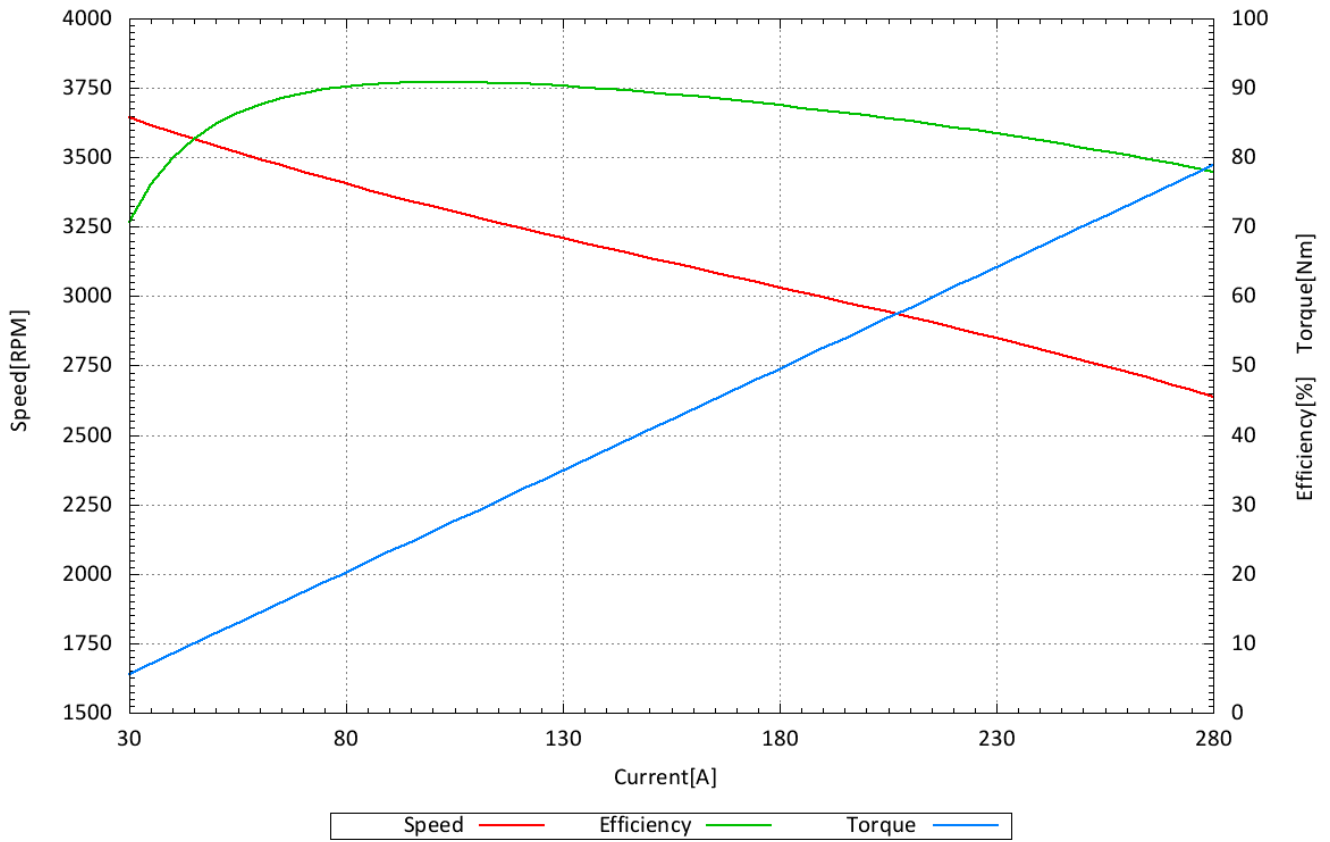
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP1450_50_B4_P50_100V_12042024



Report calculated on Test Bench Results

Motor type: **NOVA 30-50-B4 P50**

Date: 12.04.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **110.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 4,046.8 [RPM] lo: 11.5 [A] kv: 37.2 [RPM/V] kn: -4.27 [RPM/A] kT: 29.25 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
110.0	30.0	4,004.4	3,300.0	2,270.3	541.4	68.80
110.0	35.0	3,976.4	3,850.0	2,863.2	687.6	74.37
110.0	40.0	3,949.1	4,400.0	3,448.6	833.9	78.38
109.9	45.0	3,922.4	4,945.5	4,025.8	980.1	81.40
109.9	50.0	3,896.2	5,495.0	4,595.8	1,126.4	83.64
109.9	55.0	3,870.6	6,044.5	5,158.6	1,272.7	85.34
109.9	60.0	3,845.5	6,594.0	5,713.9	1,418.9	86.65
109.9	65.0	3,820.9	7,143.5	6,262.7	1,565.2	87.67
109.9	70.0	3,796.8	7,693.0	6,804.5	1,711.4	88.45
109.9	75.0	3,773.2	8,242.5	7,340.3	1,857.7	89.05
109.9	80.0	3,750.0	8,792.0	7,869.7	2,004.0	89.51
109.9	85.0	3,727.2	9,341.5	8,392.5	2,150.2	89.84
109.9	90.0	3,704.9	9,891.0	8,909.9	2,296.5	90.08
109.9	95.0	3,682.9	10,440.5	9,420.8	2,442.7	90.23
109.9	100.0	3,661.3	10,990.0	9,926.5	2,589.0	90.32
109.9	105.0	3,640.0	11,539.5	10,426.4	2,735.3	90.35
109.9	110.0	3,619.0	12,089.0	10,920.3	2,881.5	90.33
109.9	115.0	3,598.4	12,638.5	11,409.5	3,027.8	90.28
109.9	120.0	3,578.0	13,188.0	11,892.9	3,174.1	90.18
109.8	125.0	3,557.8	13,725.0	12,370.5	3,320.3	90.13
109.8	130.0	3,537.9	14,274.0	12,843.3	3,466.6	89.98
109.8	135.0	3,518.2	14,823.0	13,310.5	3,612.8	89.80
109.8	140.0	3,498.6	15,372.0	13,772.3	3,759.1	89.59
109.8	145.0	3,479.3	15,921.0	14,229.4	3,905.4	89.37
109.8	150.0	3,460.0	16,470.0	14,680.2	4,051.6	89.13
109.8	155.0	3,440.9	17,019.0	15,126.3	4,197.9	88.88

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
109.8	160.0	3,421.9	17,568.0	15,566.7	4,344.1	88.61
109.8	165.0	3,403.0	18,117.0	16,002.0	4,490.4	88.33
109.8	170.0	3,384.2	18,666.0	16,432.1	4,636.7	88.03
109.8	175.0	3,365.3	19,215.0	16,855.6	4,782.9	87.72
109.8	180.0	3,346.5	19,764.0	17,274.1	4,929.2	87.40
109.8	185.0	3,327.7	20,313.0	17,686.5	5,075.4	87.07
109.8	190.0	3,308.9	20,862.0	18,093.6	5,221.7	86.73
109.8	195.0	3,290.0	21,411.0	18,494.3	5,368.0	86.38
109.8	200.0	3,271.0	21,960.0	18,888.2	5,514.2	86.01
109.8	205.0	3,251.9	22,509.0	19,276.2	5,660.5	85.64
109.7	210.0	3,232.8	23,037.0	19,657.9	5,806.7	85.33
109.7	215.0	3,213.4	23,585.5	20,032.2	5,953.0	84.93
109.7	220.0	3,194.0	24,134.0	20,400.6	6,099.3	84.53
109.7	225.0	3,174.3	24,682.5	20,760.8	6,245.5	84.11
109.7	230.0	3,154.5	25,231.0	21,114.6	6,391.8	83.69
109.7	235.0	3,134.4	25,779.5	21,459.9	6,538.0	83.24
109.7	240.0	3,114.1	26,328.0	21,798.0	6,684.3	82.79
109.7	245.0	3,093.5	26,876.5	22,127.8	6,830.6	82.33
109.7	250.0	3,072.7	27,425.0	22,449.4	6,976.8	81.86
109.7	255.0	3,051.5	27,973.5	22,762.0	7,123.1	81.37
109.7	260.0	3,030.0	28,522.0	23,065.6	7,269.3	80.87
109.7	265.0	3,008.1	29,070.5	23,359.7	7,415.6	80.36
109.7	270.0	2,985.9	29,619.0	23,644.8	7,561.9	79.83
109.7	275.0	2,963.3	30,167.5	23,919.5	7,708.1	79.29
109.7	280.0	2,940.3	30,716.0	24,184.3	7,854.4	78.74

nl = rpm with no load

lo = current with no load

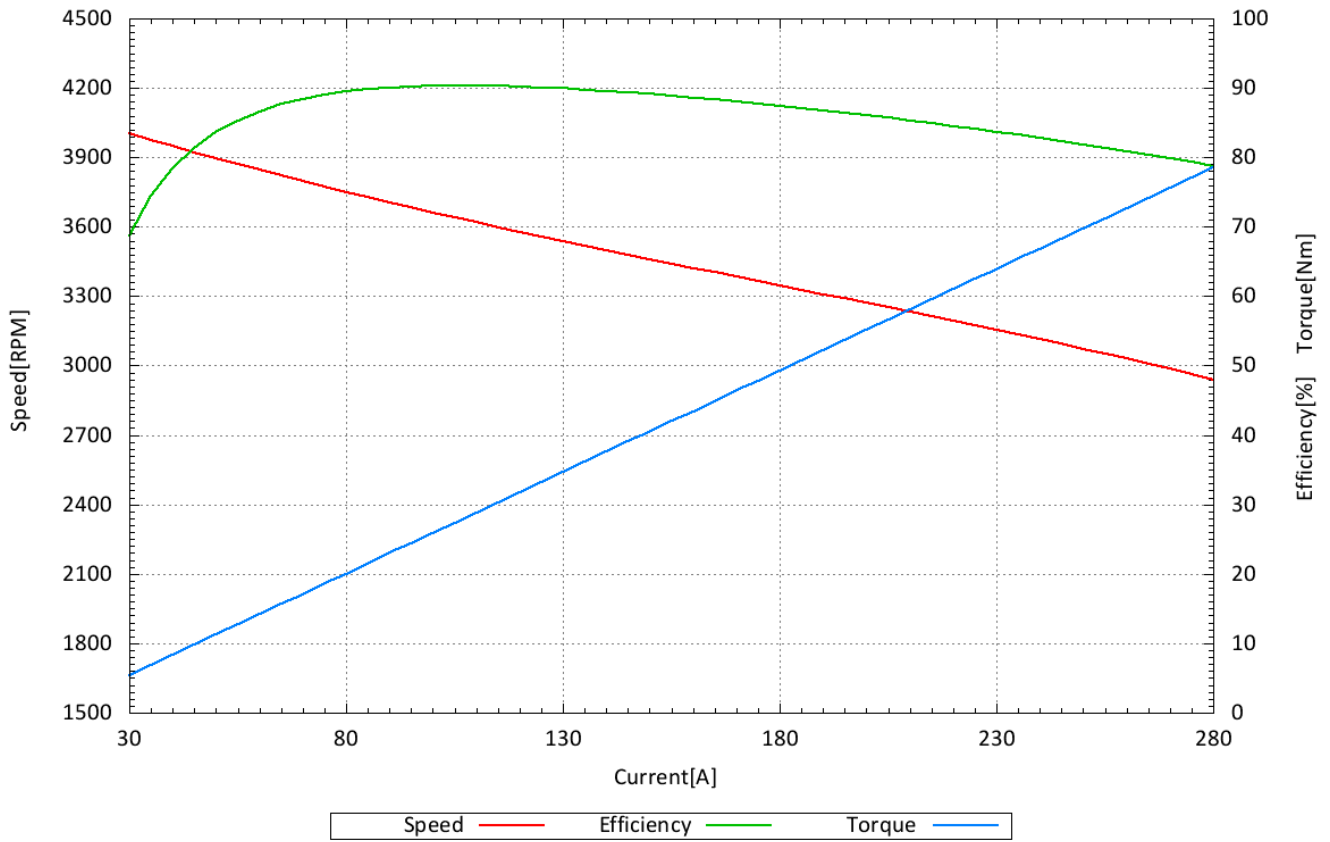
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP1450_50_B4_P50_110V_12042024



Report calculated on Test Bench Results

Motor type: **NOVA 30-50-B4 P50**

Date: 12.04.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **120.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 4,408.5 [RPM] lo: 12.7 [A] kv: 37.2 [RPM/V] kn: -4.43 [RPM/A] kT: 29.59 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
120.0	30.0	4,369.5	3,600.0	2,347.3	513.0	65.20
120.0	35.0	4,340.2	4,200.0	3,004.3	661.0	71.53
120.0	40.0	4,311.6	4,800.0	3,652.3	808.9	76.09
120.0	45.0	4,283.6	5,400.0	4,292.4	956.9	79.49
120.0	50.0	4,256.2	6,000.0	4,924.6	1,104.9	82.08
120.0	55.0	4,229.4	6,600.0	5,548.7	1,252.8	84.07
120.0	60.0	4,203.2	7,200.0	6,165.7	1,400.8	85.64
120.0	65.0	4,177.5	7,800.0	6,775.0	1,548.7	86.86
120.0	70.0	4,152.3	8,400.0	7,377.7	1,696.7	87.83
120.0	75.0	4,127.6	9,000.0	7,973.1	1,844.6	88.59
120.0	80.0	4,103.4	9,600.0	8,562.3	1,992.6	89.19
119.9	85.0	4,079.6	10,191.5	9,144.5	2,140.5	89.73
119.9	90.0	4,056.3	10,791.0	9,721.0	2,288.5	90.08
119.9	95.0	4,033.4	11,390.5	10,291.2	2,436.5	90.35
119.9	100.0	4,010.8	11,990.0	10,854.7	2,584.4	90.53
119.9	105.0	3,988.7	12,589.5	11,413.1	2,732.4	90.66
119.9	110.0	3,966.8	13,189.0	11,964.8	2,880.3	90.72
119.9	115.0	3,945.3	13,788.5	12,511.4	3,028.3	90.74
119.9	120.0	3,924.1	14,388.0	13,052.0	3,176.2	90.71
119.9	125.0	3,903.1	14,987.5	13,587.1	3,324.2	90.66
119.9	130.0	3,882.4	15,587.0	14,116.7	3,472.2	90.57
119.9	135.0	3,861.9	16,186.5	14,640.3	3,620.1	90.45
119.9	140.0	3,841.6	16,786.0	15,158.7	3,768.1	90.31
119.9	145.0	3,821.5	17,385.5	15,671.3	3,916.0	90.14
119.9	150.0	3,801.6	17,985.0	16,178.9	4,064.0	89.96
119.9	155.0	3,781.7	18,584.5	16,679.9	4,211.9	89.75

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
119.9	160.0	3,762.0	19,184.0	17,176.1	4,359.9	89.53
119.9	165.0	3,742.4	19,783.5	17,666.6	4,507.9	89.30
119.9	170.0	3,722.9	20,383.0	18,151.2	4,655.8	89.05
119.9	175.0	3,703.4	20,982.5	18,630.1	4,803.8	88.79
119.9	180.0	3,683.9	21,582.0	19,102.5	4,951.7	88.51
119.9	185.0	3,664.4	22,181.5	19,569.3	5,099.7	88.22
119.9	190.0	3,644.8	22,781.0	20,029.2	5,247.6	87.92
119.9	195.0	3,625.3	23,380.5	20,483.9	5,395.6	87.61
119.9	200.0	3,605.6	23,980.0	20,931.0	5,543.5	87.29
119.9	205.0	3,585.9	24,579.5	21,372.4	5,691.5	86.95
119.9	210.0	3,566.1	25,179.0	21,807.1	5,839.5	86.61
119.9	215.0	3,546.1	25,778.5	22,234.0	5,987.4	86.25
119.9	220.0	3,525.9	26,378.0	22,653.8	6,135.4	85.88
119.9	225.0	3,505.6	26,977.5	23,066.3	6,283.3	85.50
119.9	230.0	3,485.0	27,577.0	23,470.9	6,431.3	85.11
119.9	235.0	3,464.3	28,176.5	23,868.1	6,579.2	84.71
119.9	240.0	3,443.2	28,776.0	24,256.3	6,727.2	84.29
119.9	245.0	3,421.9	29,375.5	24,636.6	6,875.2	83.87
119.8	250.0	3,400.3	29,950.0	25,007.8	7,023.1	83.50
119.8	255.0	3,378.4	30,549.0	25,370.3	7,171.1	83.05
119.8	260.0	3,356.1	31,148.0	25,722.6	7,319.0	82.58
119.8	265.0	3,333.5	31,747.0	26,066.1	7,467.0	82.11
119.8	270.0	3,310.5	32,346.0	26,398.9	7,614.9	81.61
119.8	275.0	3,287.1	32,945.0	26,721.8	7,762.9	81.11
119.8	280.0	3,263.2	33,544.0	27,033.2	7,910.9	80.59

nl = rpm with no load

lo = current with no load

kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP1450_50_B4_P50_120V_12042024

