

Report calculated on Test Bench Results

Motor type: **ADVANCE 1-30-B20 P14**

Date: 23.09.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **20.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 4,916.8 [RPM] lo: 1.8 [A] kv: 250.1 [RPM/V] kn: -47.01 [RPM/A] kT: 4.41 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
19.8	10.0	4,558.0	198.0	172.3	36.1	87.03
19.8	11.0	4,494.4	217.8	190.6	40.5	87.52
19.8	12.0	4,431.4	237.6	208.4	44.9	87.69
19.7	13.0	4,368.9	256.1	226.0	49.4	88.25
19.7	14.0	4,307.1	275.8	242.7	53.8	87.98
19.7	15.0	4,245.8	295.5	258.8	58.2	87.57
19.7	16.0	4,185.1	315.2	274.4	62.6	87.04
19.7	17.0	4,125.1	334.9	289.4	67.0	86.42
19.6	18.0	4,065.6	352.8	304.0	71.4	86.16
19.6	19.0	4,006.7	372.4	318.0	75.8	85.40
19.6	20.0	3,948.4	392.0	332.0	80.3	84.70
19.6	21.0	3,890.7	411.6	345.1	84.7	83.84
19.6	22.0	3,833.6	431.2	357.7	89.1	82.95
19.5	23.0	3,777.1	448.5	369.8	93.5	82.46
19.5	24.0	3,721.2	468.0	381.5	97.9	81.52
19.5	25.0	3,665.9	487.5	392.7	102.3	80.56
19.5	26.0	3,611.1	507.0	403.5	106.7	79.58
19.4	27.0	3,557.0	523.8	414.2	111.2	79.08
19.4	28.0	3,503.4	543.2	424.1	115.6	78.08
19.4	29.0	3,450.5	562.6	433.6	120.0	77.07
19.4	30.0	3,398.1	582.0	442.7	124.4	76.06
19.4	31.0	3,346.4	601.4	451.4	128.8	75.05
19.3	32.0	3,295.2	617.6	459.6	133.2	74.42
19.3	33.0	3,244.6	636.9	467.5	137.6	73.41
19.3	34.0	3,194.6	656.2	475.4	142.1	72.44
19.3	35.0	3,145.3	675.5	482.5	146.5	71.43

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
19.3	36.0	3,096.5	694.8	489.3	150.9	70.43
19.2	37.0	3,048.3	710.4	495.7	155.3	69.78
19.2	38.0	3,000.6	729.6	501.8	159.7	68.78
19.2	39.0	2,953.6	748.8	507.6	164.1	67.78
19.2	40.0	2,907.2	768.0	513.0	168.5	66.79
19.2	41.0	2,861.4	787.2	518.4	173.0	65.85
19.1	42.0	2,816.1	802.2	523.2	177.4	65.22
19.1	43.0	2,771.5	821.3	527.6	181.8	64.24
19.1	44.0	2,727.4	840.4	531.8	186.2	63.28
19.1	45.0	2,684.0	859.5	535.7	190.6	62.33
19.1	46.0	2,641.1	878.6	539.3	195.0	61.38
19.0	47.0	2,598.9	893.0	542.7	199.4	60.77
19.0	48.0	2,557.2	912.0	546.0	203.9	59.87
19.0	49.0	2,516.1	931.0	548.8	208.3	58.95
19.0	50.0	2,475.6	950.0	551.4	212.7	58.04
19.0	51.0	2,435.7	969.0	553.7	217.1	57.15
18.9	52.0	2,396.4	982.8	555.9	221.5	56.56
18.9	53.0	2,357.7	1,001.7	557.7	225.9	55.68

nl = rpm with no load

lo = current with no load

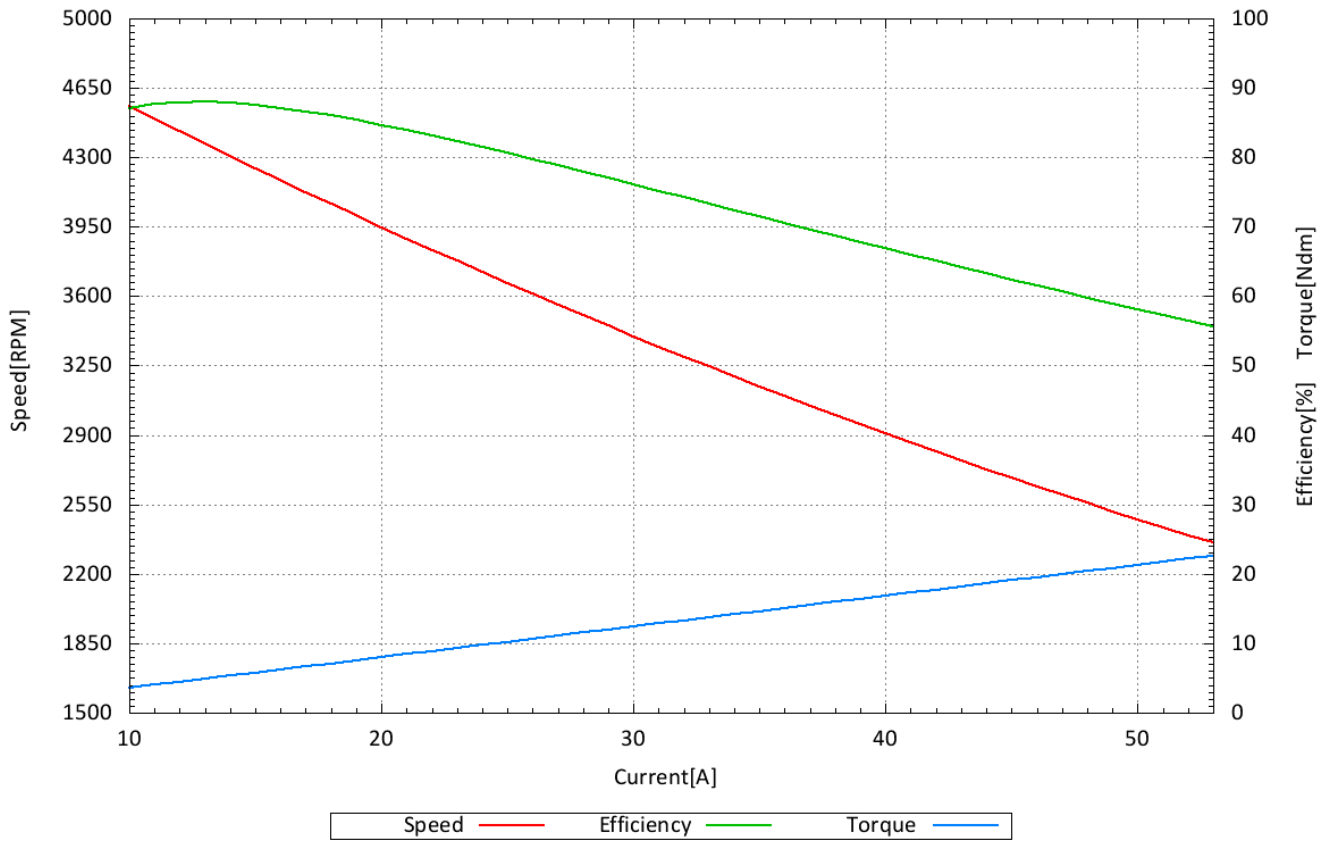
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP320_30_B20_P14_20V_23092024



Report calculated on Test Bench Results

Motor type: **ADVANCE 1-30-B20 P14**

Date: 23.09.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **25.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 6,139.1 [RPM] lo: 1.9 [A] kv: 250.1 [RPM/V] kn: -58.76 [RPM/A] kT: 4.41 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
24.8	10.0	5,732.5	248.0	213.7	35.6	86.17
24.8	11.0	5,656.4	272.8	236.9	40.0	86.85
24.8	12.0	5,581.1	297.6	259.5	44.4	87.20
24.7	13.0	5,506.6	321.1	281.4	48.8	87.64
24.7	14.0	5,432.7	345.8	302.7	53.2	87.52
24.7	15.0	5,359.7	370.5	323.9	57.7	87.41
24.7	16.0	5,287.3	395.2	343.8	62.1	87.00
24.7	17.0	5,215.7	419.9	363.2	66.5	86.50
24.6	18.0	5,144.9	442.8	382.0	70.9	86.27
24.6	19.0	5,074.7	467.4	400.2	75.3	85.61
24.6	20.0	5,005.4	492.0	417.8	79.7	84.91
24.6	21.0	4,936.7	516.6	434.8	84.1	84.16
24.6	22.0	4,868.9	541.2	451.7	88.6	83.47
24.5	23.0	4,801.7	563.5	467.6	93.0	82.99
24.5	24.0	4,735.3	588.0	483.0	97.4	82.14
24.5	25.0	4,669.6	612.5	497.8	101.8	81.27
24.5	26.0	4,604.7	637.0	512.1	106.2	80.39
24.4	27.0	4,540.6	658.8	525.9	110.6	79.83
24.4	28.0	4,477.1	683.2	539.2	115.0	78.92
24.4	29.0	4,414.4	707.6	552.4	119.5	78.07
24.4	30.0	4,352.5	732.0	564.7	123.9	77.15
24.4	31.0	4,291.3	756.4	576.6	128.3	76.22
24.3	32.0	4,230.8	777.6	587.9	132.7	75.61
24.3	33.0	4,171.1	801.9	598.8	137.1	74.68
24.3	34.0	4,112.1	826.2	609.3	141.5	73.75
24.3	35.0	4,053.8	850.5	619.4	145.9	72.82

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
24.3	36.0	3,996.3	874.8	629.4	150.4	71.95
24.2	37.0	3,939.6	895.4	638.6	154.8	71.32
24.2	38.0	3,883.5	919.6	647.4	159.2	70.40
24.2	39.0	3,828.3	943.8	655.9	163.6	69.49
24.2	40.0	3,773.7	968.0	663.9	168.0	68.59
24.2	41.0	3,719.9	992.2	671.6	172.4	67.69
24.1	42.0	3,666.9	1,012.2	678.9	176.8	67.07
24.1	43.0	3,614.6	1,036.3	686.3	181.3	66.22
24.1	44.0	3,563.0	1,060.4	692.9	185.7	65.34
24.1	45.0	3,512.2	1,084.5	699.2	190.1	64.47
24.1	46.0	3,462.1	1,108.6	705.2	194.5	63.61
24.0	47.0	3,412.7	1,128.0	710.8	198.9	63.02
24.0	48.0	3,364.1	1,152.0	716.2	203.3	62.17
24.0	49.0	3,316.3	1,176.0	721.3	207.7	61.34
24.0	50.0	3,269.2	1,200.0	726.5	212.2	60.54
24.0	51.0	3,222.8	1,224.0	731.0	216.6	59.72
23.9	52.0	3,177.1	1,242.8	735.3	221.0	59.16
23.9	53.0	3,132.3	1,266.7	739.3	225.4	58.37

nl = rpm with no load

lo = current with no load

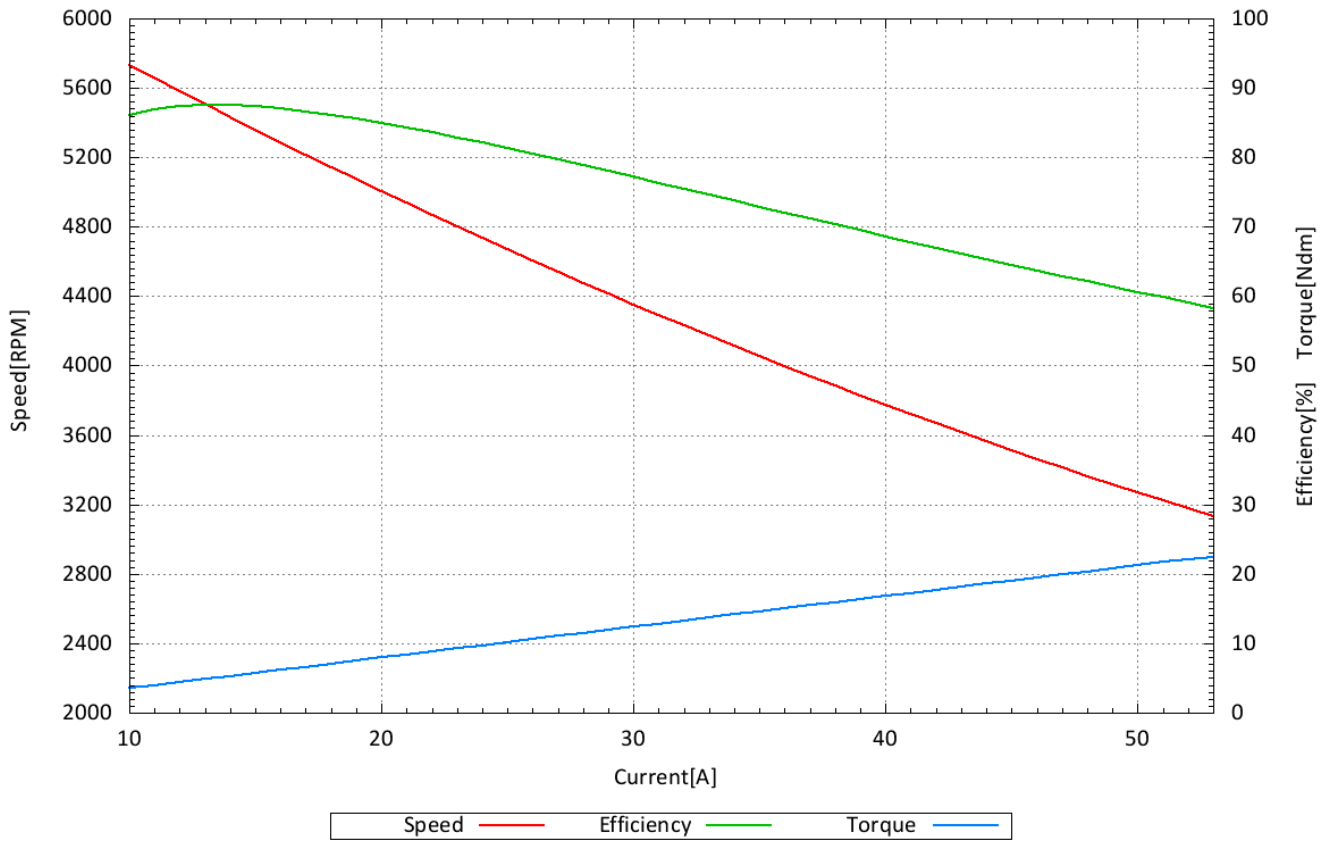
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP320_30_B20_P14_25V_23092024



Report calculated on Test Bench Results

Motor type: **ADVANCE 1-30-B20 P14**

Date: 23.09.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **30.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 7,358.6 [RPM] lo: 2.1 [A] kv: 250.1 [RPM/V] kn: -70.51 [RPM/A] kT: 4.41 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
29.8	10.0	6,906.9	298.0	253.9	35.1	85.19
29.8	11.0	6,818.4	327.8	282.0	39.5	86.04
29.8	12.0	6,730.9	357.6	309.4	43.9	86.53
29.7	13.0	6,644.2	386.1	336.1	48.3	87.04
29.7	14.0	6,558.4	415.8	361.9	52.7	87.05
29.7	15.0	6,473.5	445.5	387.1	57.1	86.89
29.7	16.0	6,389.5	475.2	412.2	61.6	86.74
29.7	17.0	6,306.4	504.9	435.9	66.0	86.33
29.6	18.0	6,224.1	532.8	458.9	70.4	86.12
29.6	19.0	6,142.8	562.4	481.2	74.8	85.56
29.6	20.0	6,062.3	592.0	502.8	79.2	84.93
29.6	21.0	5,982.8	621.6	523.8	83.6	84.26
29.6	22.0	5,904.1	651.2	544.1	88.0	83.55
29.5	23.0	5,826.3	678.5	564.4	92.5	83.18
29.5	24.0	5,749.4	708.0	583.4	96.9	82.40
29.5	25.0	5,673.4	737.5	601.8	101.3	81.61
29.5	26.0	5,598.3	767.0	619.7	105.7	80.79
29.4	27.0	5,524.1	793.8	636.9	110.1	80.24
29.4	28.0	5,450.8	823.2	653.6	114.5	79.39
29.4	29.0	5,378.3	852.6	669.7	118.9	78.54
29.4	30.0	5,306.8	882.0	685.8	123.4	77.75
29.4	31.0	5,236.1	911.4	700.8	127.8	76.89
29.3	32.0	5,166.4	937.6	715.2	132.2	76.28
29.3	33.0	5,097.5	966.9	729.2	136.6	75.41
29.3	34.0	5,029.5	996.2	742.6	141.0	74.55
29.3	35.0	4,962.4	1,025.5	755.6	145.4	73.68

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
29.3	36.0	4,896.2	1,054.8	768.1	149.8	72.82
29.2	37.0	4,830.9	1,080.4	780.6	154.3	72.25
29.2	38.0	4,766.4	1,109.6	792.1	158.7	71.39
29.2	39.0	4,702.9	1,138.8	803.2	163.1	70.53
29.2	40.0	4,640.3	1,168.0	813.9	167.5	69.69
29.2	41.0	4,578.5	1,197.2	824.2	171.9	68.84
29.1	42.0	4,517.6	1,222.2	834.0	176.3	68.24
29.1	43.0	4,457.6	1,251.3	843.5	180.7	67.41
29.1	44.0	4,398.6	1,280.4	853.1	185.2	66.63
29.1	45.0	4,340.4	1,309.5	861.8	189.6	65.81
29.1	46.0	4,283.0	1,338.6	870.1	194.0	65.00
29.0	47.0	4,226.6	1,363.0	878.1	198.4	64.43
29.0	48.0	4,171.1	1,392.0	885.8	202.8	63.64
29.0	49.0	4,116.5	1,421.0	893.2	207.2	62.86
29.0	50.0	4,062.7	1,450.0	900.2	211.6	62.09
29.0	51.0	4,009.9	1,479.0	907.4	216.1	61.35
28.9	52.0	3,957.9	1,502.8	913.9	220.5	60.81
28.9	53.0	3,906.8	1,531.7	920.1	224.9	60.07

nl = rpm with no load

lo = current with no load

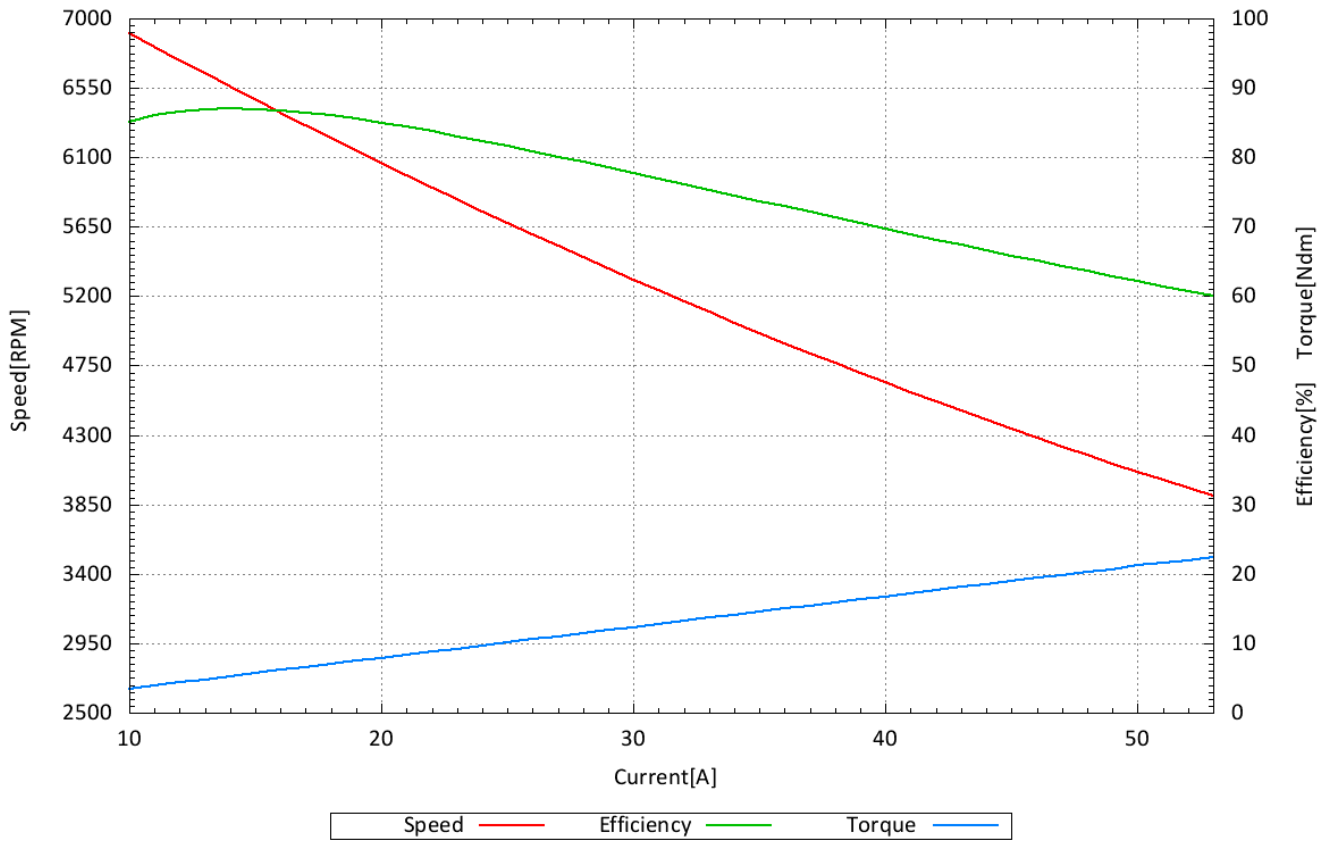
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP320_30_B20_P14_30V_23092024



Report calculated on Test Bench Results

Motor type: **ADVANCE 1-30-B20 P14**

Date: 23.09.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **35.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 8,747.3 [RPM] lo: 2.9 [A] kv: 256.7 [RPM/V] kn: -80.38 [RPM/A] kT: 4.53 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
34.8	10.0	8,333.8	348.0	279.3	32.0	80.25
34.8	11.0	8,224.8	382.8	315.2	36.6	82.35
34.7	12.0	8,117.0	416.4	349.4	41.1	83.90
34.7	13.0	8,010.7	451.1	382.5	45.6	84.80
34.7	14.0	7,905.6	485.8	415.6	50.2	85.55
34.7	15.0	7,801.9	520.5	446.9	54.7	85.86
34.7	16.0	7,699.6	555.2	477.3	59.2	85.97
34.6	17.0	7,598.6	588.2	507.7	63.8	86.31
34.6	18.0	7,498.9	622.8	536.3	68.3	86.12
34.6	19.0	7,400.6	657.4	564.2	72.8	85.82
34.6	20.0	7,303.6	692.0	592.0	77.4	85.55
34.6	21.0	7,207.9	726.6	618.2	81.9	85.08
34.5	22.0	7,113.6	759.0	643.6	86.4	84.80
34.5	23.0	7,020.7	793.5	669.0	91.0	84.31
34.5	24.0	6,929.1	828.0	693.0	95.5	83.69
34.5	25.0	6,838.8	862.5	716.2	100.0	83.03
34.4	26.0	6,749.8	894.4	739.4	104.6	82.66
34.4	27.0	6,662.2	928.8	761.2	109.1	81.95
34.4	28.0	6,576.0	963.2	783.0	113.7	81.29
34.4	29.0	6,491.1	997.6	803.5	118.2	80.54
34.4	30.0	6,407.5	1,032.0	823.3	122.7	79.78
34.3	31.0	6,325.3	1,063.3	843.2	127.3	79.30
34.3	32.0	6,244.4	1,097.6	861.9	131.8	78.52
34.3	33.0	6,164.8	1,131.9	879.9	136.3	77.74
34.3	34.0	6,086.6	1,166.2	898.1	140.9	77.01
34.3	35.0	6,009.7	1,200.5	915.1	145.4	76.22

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
34.2	36.0	5,934.2	1,231.2	931.5	149.9	75.66
34.2	37.0	5,860.0	1,265.4	948.1	154.5	74.93
34.2	38.0	5,787.2	1,299.6	963.6	159.0	74.15
34.2	39.0	5,715.7	1,333.8	978.6	163.5	73.37
34.1	40.0	5,645.5	1,364.0	993.8	168.1	72.86
34.1	41.0	5,576.7	1,398.1	1,008.0	172.6	72.10
34.1	42.0	5,509.2	1,432.2	1,021.7	177.1	71.34
34.1	43.0	5,443.1	1,466.3	1,035.7	181.7	70.63
34.1	44.0	5,378.3	1,500.4	1,048.7	186.2	69.90
34.0	45.0	5,314.8	1,530.0	1,061.4	190.7	69.37
34.0	46.0	5,252.7	1,564.0	1,074.3	195.3	68.69
34.0	47.0	5,192.0	1,598.0	1,086.3	199.8	67.98
34.0	48.0	5,132.5	1,632.0	1,098.1	204.3	67.28
34.0	49.0	5,074.4	1,666.0	1,110.1	208.9	66.63
33.9	50.0	5,017.7	1,695.0	1,121.3	213.4	66.15
33.9	51.0	4,962.3	1,728.9	1,132.3	217.9	65.49
33.9	52.0	4,908.2	1,762.8	1,143.6	222.5	64.88
33.9	53.0	4,855.5	1,796.7	1,154.2	227.0	64.24

nl = rpm with no load

lo = current with no load

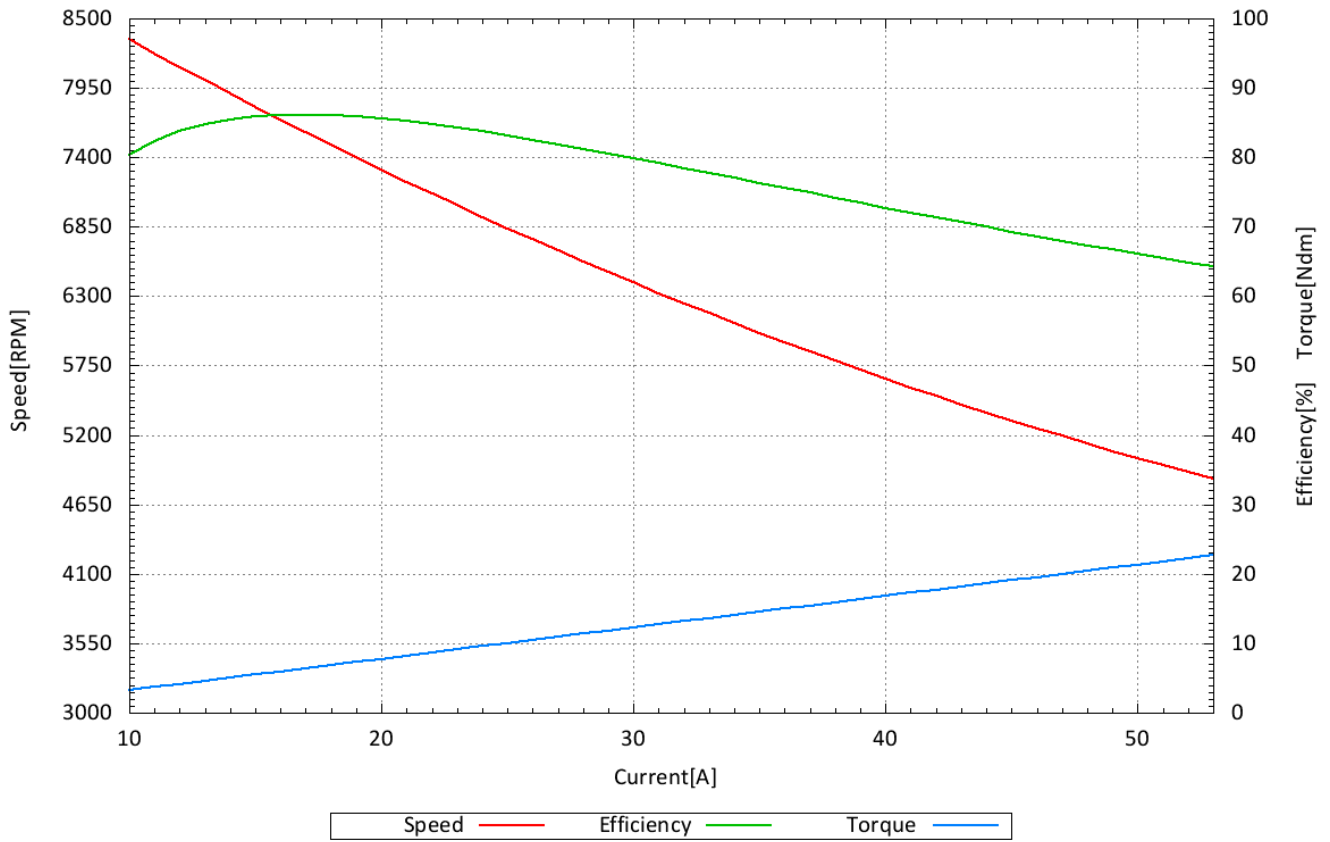
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP320_30_B20_P14_35V_23092024



Report calculated on Test Bench Results

Motor type: **ADVANCE 1-30-B20 P14**

Date: 23.09.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **40.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 9,895.6 [RPM] lo: 3.6 [A] kv: 255.3 [RPM/V] kn: -88.01 [RPM/A] kT: 4.75 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
39.8	10.0	9,309.8	398.0	296.4	30.4	74.47
39.8	11.0	9,224.2	437.8	339.1	35.1	77.44
39.8	12.0	9,138.4	477.6	381.8	39.9	79.95
39.7	13.0	9,052.5	516.1	423.7	44.7	82.11
39.7	14.0	8,966.5	555.8	463.9	49.4	83.46
39.7	15.0	8,880.3	595.5	504.0	54.2	84.64
39.7	16.0	8,793.9	635.2	542.4	58.9	85.39
39.7	17.0	8,707.4	674.9	580.8	63.7	86.06
39.6	18.0	8,620.8	712.8	617.5	68.4	86.63
39.6	19.0	8,534.1	752.4	654.2	73.2	86.95
39.6	20.0	8,447.1	792.0	689.1	77.9	87.01
39.6	21.0	8,360.1	831.6	724.0	82.7	87.06
39.6	22.0	8,272.9	871.2	757.2	87.4	86.91
39.5	23.0	8,185.6	908.5	790.3	92.2	86.99
39.5	24.0	8,098.1	948.0	821.7	96.9	86.68
39.5	25.0	8,010.5	987.5	853.1	101.7	86.39
39.5	26.0	7,922.7	1,027.0	882.8	106.4	85.96
39.5	27.0	7,834.8	1,066.5	912.3	111.2	85.55
39.4	28.0	7,746.7	1,103.2	940.2	115.9	85.23
39.4	29.0	7,658.6	1,142.6	968.0	120.7	84.72
39.4	30.0	7,570.2	1,182.0	994.9	125.5	84.17
39.4	31.0	7,481.7	1,221.4	1,020.1	130.2	83.52
39.4	32.0	7,393.1	1,260.8	1,045.2	135.0	82.90
39.3	33.0	7,304.4	1,296.9	1,068.6	139.7	82.40
39.3	34.0	7,215.5	1,336.2	1,091.8	144.5	81.71
39.3	35.0	7,126.4	1,375.5	1,113.4	149.2	80.95

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
39.3	36.0	7,037.2	1,414.8	1,134.9	154.0	80.21
39.3	37.0	6,947.9	1,454.1	1,154.7	158.7	79.41
39.3	38.0	6,858.4	1,493.4	1,174.3	163.5	78.63
39.2	39.0	6,768.8	1,528.8	1,192.2	168.2	77.99
39.2	40.0	6,679.0	1,568.0	1,210.0	173.0	77.17
39.2	41.0	6,589.1	1,607.2	1,226.1	177.7	76.29
39.2	42.0	6,499.1	1,646.4	1,242.1	182.5	75.44
39.2	43.0	6,408.9	1,685.6	1,256.4	187.2	74.54
39.1	44.0	6,318.6	1,720.4	1,270.4	192.0	73.85
39.1	45.0	6,228.1	1,759.5	1,282.9	196.7	72.91
39.1	46.0	6,137.5	1,798.6	1,295.1	201.5	72.00
39.1	47.0	6,046.8	1,837.7	1,306.3	206.3	71.09
39.1	48.0	5,955.9	1,876.8	1,316.0	211.0	70.12
39.0	49.0	5,864.8	1,911.0	1,325.4	215.8	69.35
39.0	50.0	5,773.6	1,950.0	1,333.2	220.5	68.37
39.0	51.0	5,682.3	1,989.0	1,340.6	225.3	67.40
39.0	52.0	5,590.8	2,028.0	1,346.6	230.0	66.40
39.0	53.0	5,499.2	2,067.0	1,352.2	234.8	65.42

nl = rpm with no load

lo = current with no load

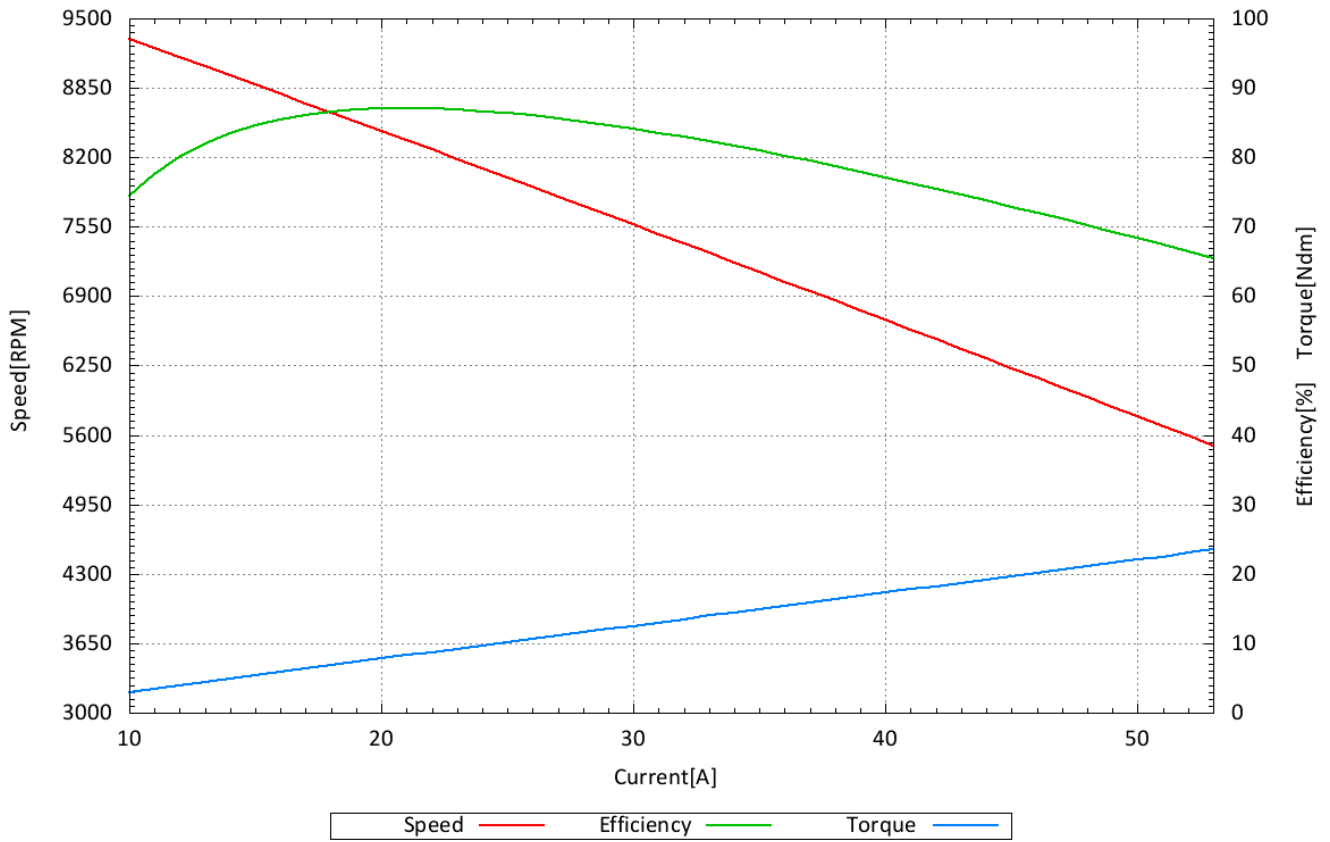
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP320_30_B20_P14_40V_23092024



Report calculated on Test Bench Results

Motor type: **ADVANCE 1-30-B20 P14**

Date: 23.09.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **45.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 11,118.4 [RPM] lo: 3.7 [A] kv: 255.3 [RPM/V] kn: -99.01 [RPM/A] kT: 4.75 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
44.8	10.0	10,485.2	448.0	326.1	29.7	72.79
44.8	11.0	10,390.1	492.8	375.4	34.5	76.17
44.8	12.0	10,294.7	537.6	422.6	39.2	78.61
44.7	13.0	10,199.3	581.1	470.0	44.0	80.87
44.7	14.0	10,103.6	625.8	515.3	48.7	82.34
44.7	15.0	10,007.8	670.5	560.7	53.5	83.62
44.7	16.0	9,911.9	715.2	604.1	58.2	84.47
44.7	17.0	9,815.7	759.9	647.6	63.0	85.22
44.6	18.0	9,719.5	802.8	689.1	67.7	85.83
44.6	19.0	9,623.0	847.4	730.6	72.5	86.22
44.6	20.0	9,526.4	892.0	770.1	77.2	86.34
44.6	21.0	9,429.6	936.6	809.7	82.0	86.45
44.6	22.0	9,332.7	981.2	847.3	86.7	86.36
44.5	23.0	9,235.6	1,023.5	884.9	91.5	86.46
44.5	24.0	9,138.4	1,068.0	921.6	96.3	86.29
44.5	25.0	9,041.0	1,112.5	956.2	101.0	85.95
44.5	26.0	8,943.4	1,157.0	990.9	105.8	85.64
44.5	27.0	8,845.7	1,201.5	1,023.6	110.5	85.19
44.4	28.0	8,747.8	1,243.2	1,056.2	115.3	84.96
44.4	29.0	8,649.8	1,287.6	1,087.0	120.0	84.42
44.4	30.0	8,551.6	1,332.0	1,117.6	124.8	83.90
44.4	31.0	8,453.2	1,376.4	1,146.4	129.5	83.29
44.4	32.0	8,354.7	1,420.8	1,175.0	134.3	82.70
44.3	33.0	8,256.0	1,461.9	1,201.7	139.0	82.20
44.3	34.0	8,157.1	1,506.2	1,228.4	143.8	81.55
44.3	35.0	8,058.1	1,550.5	1,253.1	148.5	80.82

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
44.3	36.0	7,958.9	1,594.8	1,277.7	153.3	80.12
44.3	37.0	7,859.6	1,639.1	1,300.4	158.0	79.34
44.3	38.0	7,760.1	1,683.4	1,323.0	162.8	78.59
44.2	39.0	7,660.5	1,723.8	1,343.7	167.5	77.95
44.2	40.0	7,560.7	1,768.0	1,364.2	172.3	77.16
44.2	41.0	7,460.7	1,812.2	1,383.7	177.1	76.35
44.2	42.0	7,360.6	1,856.4	1,401.3	181.8	75.49
44.2	43.0	7,260.3	1,900.6	1,418.7	186.6	74.65
44.1	44.0	7,159.8	1,940.4	1,434.3	191.3	73.92
44.1	45.0	7,059.2	1,984.5	1,449.6	196.1	73.05
44.1	46.0	6,958.4	2,028.6	1,463.2	200.8	72.13
44.1	47.0	6,857.5	2,072.7	1,476.4	205.6	71.23
44.1	48.0	6,756.4	2,116.8	1,487.9	210.3	70.29
44.0	49.0	6,655.2	2,156.0	1,499.1	215.1	69.53
44.0	50.0	6,553.8	2,200.0	1,508.5	219.8	68.57
44.0	51.0	6,452.2	2,244.0	1,517.6	224.6	67.63
44.0	52.0	6,350.5	2,288.0	1,524.9	229.3	66.65
44.0	53.0	6,248.6	2,332.0	1,531.8	234.1	65.69

nl = rpm with no load

lo = current with no load

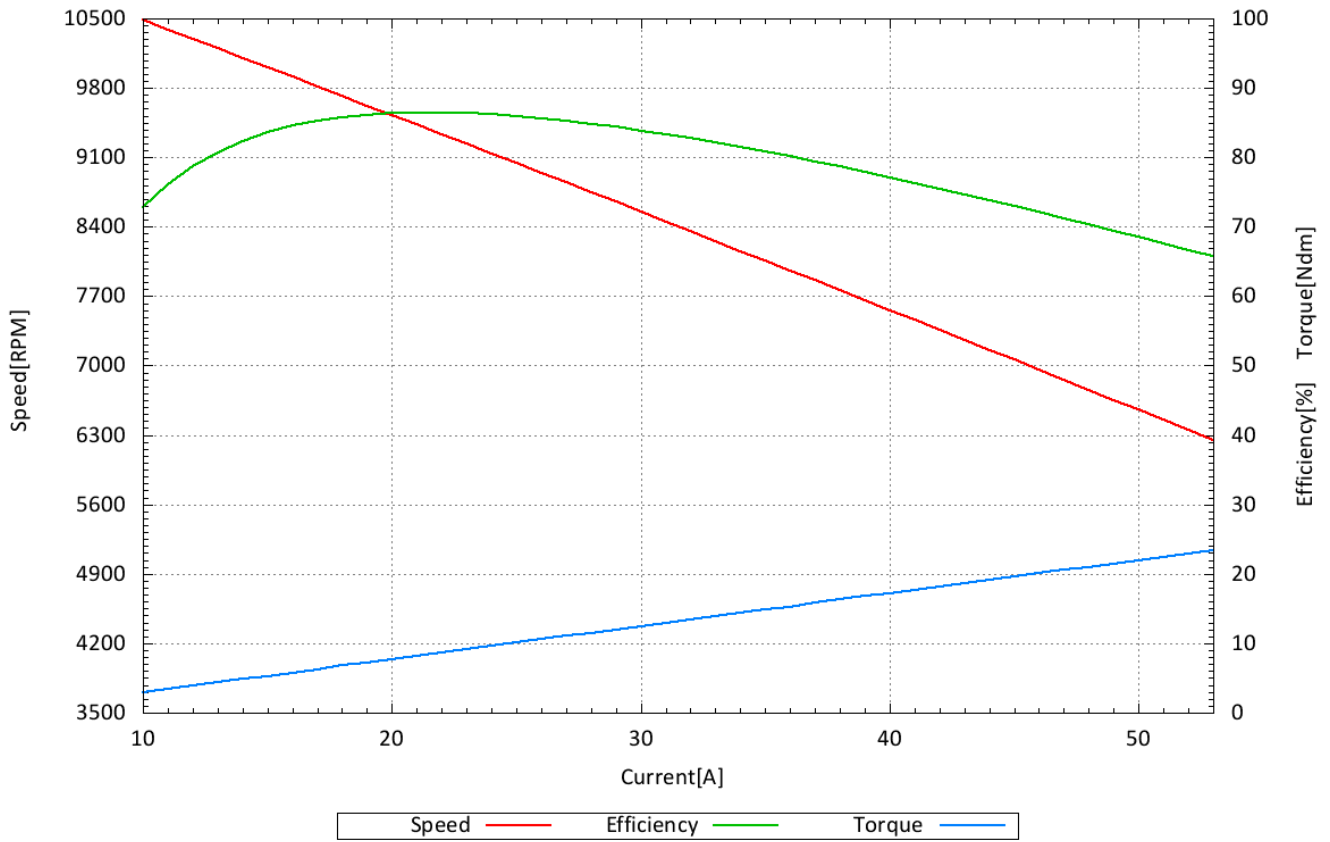
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP320_30_B20_P14_45V_23092024



Report calculated on Test Bench Results

Motor type: **ADVANCE 1-30-B20 P14**

Date: 23.09.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **50.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 12,614.8 [RPM] lo: 4.1 [A] kv: 261.6 [RPM/V] kn: -115.10 [RPM/A]kT: 4.83 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
49.8	10.0	11,855.8	498.0	356.3	28.7	71.55
49.8	11.0	11,753.4	547.8	412.3	33.5	75.27
49.7	12.0	11,650.5	596.4	468.5	38.4	78.55
49.7	13.0	11,547.0	646.1	522.4	43.2	80.85
49.7	14.0	11,442.9	695.8	575.2	48.0	82.66
49.7	15.0	11,338.2	745.5	628.1	52.9	84.25
49.7	16.0	11,233.0	795.2	678.7	57.7	85.35
49.6	17.0	11,127.1	843.2	728.3	62.5	86.37
49.6	18.0	11,020.7	892.8	776.7	67.3	87.00
49.6	19.0	10,913.7	942.4	825.2	72.2	87.56
49.6	20.0	10,806.1	992.0	871.3	77.0	87.84
49.6	21.0	10,697.9	1,041.6	916.4	81.8	87.98
49.5	22.0	10,589.1	1,089.0	961.4	86.7	88.28
49.5	23.0	10,479.7	1,138.5	1,004.1	91.5	88.20
49.5	24.0	10,369.8	1,188.0	1,045.7	96.3	88.03
49.5	25.0	10,259.2	1,237.5	1,086.2	101.1	87.77
49.5	26.0	10,148.1	1,287.0	1,126.5	106.0	87.53
49.4	27.0	10,036.4	1,333.8	1,164.5	110.8	87.31
49.4	28.0	9,924.1	1,383.2	1,201.4	115.6	86.85
49.4	29.0	9,811.2	1,432.6	1,238.0	120.5	86.42
49.4	30.0	9,697.8	1,482.0	1,272.5	125.3	85.86
49.3	31.0	9,583.7	1,528.3	1,305.7	130.1	85.43
49.3	32.0	9,469.1	1,577.6	1,338.7	135.0	84.85
49.3	33.0	9,353.9	1,626.9	1,369.4	139.8	84.17
49.3	34.0	9,238.1	1,676.2	1,398.9	144.6	83.46
49.3	35.0	9,121.7	1,725.5	1,427.1	149.4	82.71

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
49.2	36.0	9,004.7	1,771.2	1,455.0	154.3	82.15
49.2	37.0	8,887.1	1,820.4	1,480.7	159.1	81.34
49.2	38.0	8,769.0	1,869.6	1,505.1	163.9	80.50
49.2	39.0	8,650.3	1,918.8	1,529.1	168.8	79.69
49.2	40.0	8,530.9	1,968.0	1,550.9	173.6	78.80
49.1	41.0	8,411.0	2,013.1	1,571.3	178.4	78.06
49.1	42.0	8,290.5	2,062.2	1,590.5	183.2	77.13
49.1	43.0	8,169.5	2,111.3	1,609.2	188.1	76.22
49.1	44.0	8,047.8	2,160.4	1,625.7	192.9	75.25
49.1	45.0	7,925.5	2,209.5	1,640.8	197.7	74.26
49.0	46.0	7,802.7	2,254.0	1,655.4	202.6	73.44
49.0	47.0	7,679.3	2,303.0	1,667.9	207.4	72.42
49.0	48.0	7,555.3	2,352.0	1,678.9	212.2	71.38
49.0	49.0	7,430.7	2,401.0	1,688.6	217.0	70.33
48.9	50.0	7,305.5	2,445.0	1,697.6	221.9	69.43
48.9	51.0	7,179.7	2,493.9	1,704.5	226.7	68.35
48.9	52.0	7,053.4	2,542.8	1,709.9	231.5	67.25
48.9	53.0	6,926.5	2,591.7	1,714.7	236.4	66.16

nl = rpm with no load

lo = current with no load

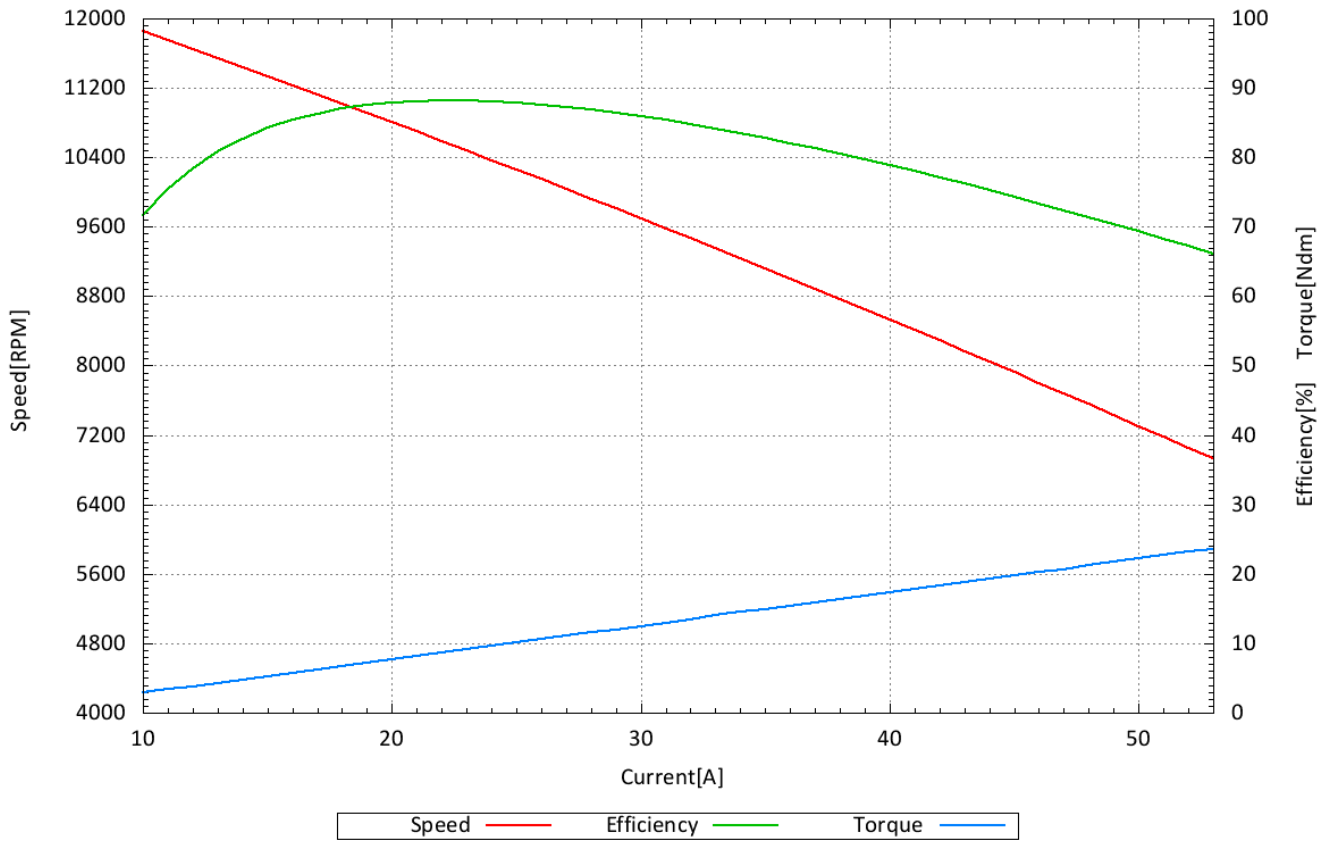
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP320_30_B20_P14_50V_23092024



Report calculated on Test Bench Results

Motor type: **ADVANCE 1-30-B20 P14**

Date: 23.09.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **55.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 13,845.2 [RPM] lo: 4.3 [A] kv: 261.4 [RPM/V] kn: -124.18 [RPM/A]kT: 4.91 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
54.8	10.0	13,092.1	548.0	383.9	28.0	70.05
54.8	11.0	12,975.1	602.8	447.0	32.9	74.16
54.7	12.0	12,857.7	656.4	509.0	37.8	77.54
54.7	13.0	12,740.0	711.1	569.7	42.7	80.11
54.7	14.0	12,621.9	765.8	629.2	47.6	82.16
54.7	15.0	12,503.4	820.5	688.7	52.6	83.94
54.7	16.0	12,384.6	875.2	745.7	57.5	85.21
54.6	17.0	12,265.4	928.2	801.5	62.4	86.35
54.6	18.0	12,145.9	982.8	856.0	67.3	87.10
54.6	19.0	12,026.0	1,037.4	909.3	72.2	87.65
54.6	20.0	11,905.7	1,092.0	961.3	77.1	88.03
54.6	21.0	11,785.1	1,146.6	1,012.0	82.0	88.26
54.5	22.0	11,664.1	1,199.0	1,061.5	86.9	88.53
54.5	23.0	11,542.8	1,253.5	1,110.8	91.9	88.62
54.5	24.0	11,421.1	1,308.0	1,157.7	96.8	88.51
54.5	25.0	11,299.0	1,362.5	1,203.3	101.7	88.32
54.5	26.0	11,176.6	1,417.0	1,247.7	106.6	88.05
54.4	27.0	11,053.9	1,468.8	1,290.7	111.5	87.87
54.4	28.0	10,930.7	1,523.2	1,332.4	116.4	87.47
54.4	29.0	10,807.2	1,577.6	1,372.8	121.3	87.02
54.4	30.0	10,683.4	1,632.0	1,411.9	126.2	86.51
54.3	31.0	10,559.2	1,683.3	1,450.8	131.2	86.19
54.3	32.0	10,434.6	1,737.6	1,487.2	136.1	85.59
54.3	33.0	10,309.7	1,791.9	1,522.3	141.0	84.95
54.3	34.0	10,184.4	1,846.2	1,556.0	145.9	84.28
54.3	35.0	10,058.8	1,900.5	1,588.5	150.8	83.58

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
54.2	36.0	9,932.8	1,951.2	1,619.5	155.7	83.00
54.2	37.0	9,806.5	2,005.4	1,649.3	160.6	82.24
54.2	38.0	9,679.8	2,059.6	1,678.6	165.6	81.50
54.2	39.0	9,552.7	2,113.8	1,705.6	170.5	80.69
54.2	40.0	9,425.3	2,168.0	1,731.2	175.4	79.85
54.1	41.0	9,297.5	2,218.1	1,755.5	180.3	79.14
54.1	42.0	9,169.3	2,272.2	1,778.3	185.2	78.26
54.1	43.0	9,040.8	2,326.3	1,799.8	190.1	77.37
54.1	44.0	8,912.0	2,380.4	1,819.9	195.0	76.45
54.1	45.0	8,782.7	2,434.5	1,838.5	199.9	75.52
54.0	46.0	8,653.2	2,484.0	1,856.7	204.9	74.75
54.0	47.0	8,523.2	2,538.0	1,872.6	209.8	73.78
54.0	48.0	8,392.9	2,592.0	1,887.0	214.7	72.80
54.0	49.0	8,262.3	2,646.0	1,900.0	219.6	71.81
54.0	50.0	8,131.3	2,700.0	1,911.6	224.5	70.80
53.9	51.0	7,999.9	2,748.9	1,921.8	229.4	69.91
53.9	52.0	7,868.2	2,802.8	1,930.5	234.3	68.88
53.9	53.0	7,736.1	2,856.7	1,937.8	239.2	67.83

nl = rpm with no load

lo = current with no load

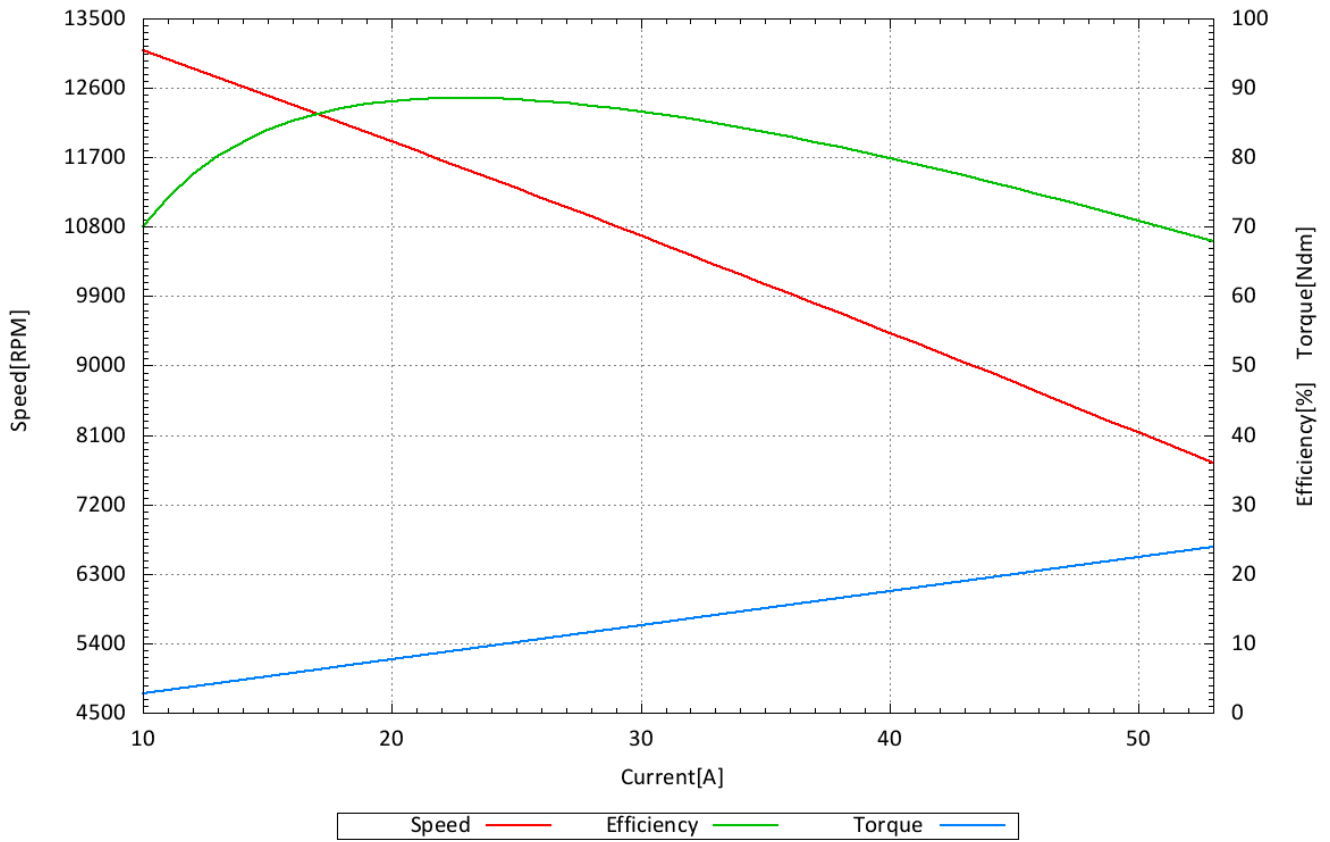
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP320_30_B20_P14_55V_23092024



Report calculated on Test Bench Results

Motor type: **ADVANCE 1-30-B20 P14**

Date: 23.09.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **60.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 15,086.7 [RPM] lo: 4.4 [A] kv: 261.4 [RPM/V] kn: -135.47 [RPM/A]kT: 4.91 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
59.8	10.0	14,290.9	598.0	410.1	27.4	68.57
59.8	11.0	14,164.1	657.8	479.1	32.3	72.83
59.7	12.0	14,036.9	716.4	546.8	37.2	76.33
59.7	13.0	13,909.3	776.1	613.2	42.1	79.01
59.7	14.0	13,781.3	835.8	678.3	47.0	81.15
59.7	15.0	13,652.9	895.5	742.0	51.9	82.86
59.7	16.0	13,524.2	955.2	804.4	56.8	84.22
59.6	17.0	13,395.0	1,013.2	866.9	61.8	85.56
59.6	18.0	13,265.5	1,072.8	926.6	66.7	86.37
59.6	19.0	13,135.5	1,132.4	984.9	71.6	86.97
59.6	20.0	13,005.2	1,192.0	1,041.9	76.5	87.40
59.6	21.0	12,874.5	1,251.6	1,097.4	81.4	87.68
59.5	22.0	12,743.4	1,309.0	1,151.7	86.3	87.98
59.5	23.0	12,611.9	1,368.5	1,204.5	91.2	88.02
59.5	24.0	12,480.0	1,428.0	1,255.9	96.1	87.95
59.5	25.0	12,347.7	1,487.5	1,307.3	101.1	87.88
59.5	26.0	12,215.0	1,547.0	1,355.9	106.0	87.65
59.4	27.0	12,081.9	1,603.8	1,403.1	110.9	87.49
59.4	28.0	11,948.5	1,663.2	1,448.9	115.8	87.12
59.4	29.0	11,814.6	1,722.6	1,493.3	120.7	86.69
59.4	30.0	11,680.4	1,782.0	1,536.3	125.6	86.21
59.3	31.0	11,545.7	1,838.3	1,577.8	130.5	85.83
59.3	32.0	11,410.7	1,897.6	1,617.9	135.4	85.26
59.3	33.0	11,275.3	1,956.9	1,657.8	140.4	84.71
59.3	34.0	11,139.5	2,016.2	1,695.0	145.3	84.07
59.3	35.0	11,003.3	2,075.5	1,730.7	150.2	83.39

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
59.2	36.0	10,866.7	2,131.2	1,765.0	155.1	82.82
59.2	37.0	10,729.7	2,190.4	1,797.8	160.0	82.08
59.2	38.0	10,592.3	2,249.6	1,829.1	164.9	81.31
59.2	39.0	10,454.6	2,308.8	1,859.0	169.8	80.52
59.2	40.0	10,316.4	2,368.0	1,888.4	174.8	79.75
59.1	41.0	10,177.9	2,423.1	1,915.3	179.7	79.04
59.1	42.0	10,038.9	2,482.2	1,940.6	184.6	78.18
59.1	43.0	9,899.6	2,541.3	1,964.5	189.5	77.30
59.1	44.0	9,759.9	2,600.4	1,986.9	194.4	76.41
59.1	45.0	9,619.8	2,659.5	2,007.7	199.3	75.49
59.0	46.0	9,479.3	2,714.0	2,027.0	204.2	74.69
59.0	47.0	9,338.4	2,773.0	2,044.8	209.1	73.74
59.0	48.0	9,197.1	2,832.0	2,062.0	214.1	72.81
59.0	49.0	9,055.4	2,891.0	2,076.7	219.0	71.83
59.0	50.0	8,913.4	2,950.0	2,089.9	223.9	70.84
58.9	51.0	8,770.9	3,003.9	2,101.5	228.8	69.96
58.9	52.0	8,628.1	3,062.8	2,111.6	233.7	68.94
58.9	53.0	8,484.8	3,121.7	2,120.0	238.6	67.91

nl = rpm with no load

lo = current with no load

kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

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