

Report calculated on Test Bench Results

Motor type: **NOVA 15-20-B6 P30**

Date: 16.04.2024

Bearing type: regular

Controller: MST 60-290

Measuring Parameter

Voltage: **15.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 2,573.0 [RPM] lo: 4.9 [A] kv: 173.9 [RPM/V] kn: -7.25 [RPM/A] kT: 6.13 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
15.0	15.0	2,551.8	225.0	165.1	61.8	73.40
15.0	19.0	2,510.7	285.0	227.2	86.4	79.71
14.9	23.0	2,470.7	342.7	286.9	110.9	83.73
14.9	27.0	2,431.8	402.3	344.8	135.4	85.71
14.9	31.0	2,393.9	461.9	401.1	160.0	86.84
14.9	35.0	2,357.0	521.5	455.4	184.5	87.32
14.9	39.0	2,321.0	581.1	508.0	209.0	87.42
14.9	43.0	2,286.0	640.7	559.2	233.6	87.28
14.9	47.0	2,251.8	700.3	608.6	258.1	86.91
14.9	51.0	2,218.5	759.9	656.5	282.6	86.40
14.9	55.0	2,185.9	819.5	703.2	307.2	85.81
14.9	59.0	2,154.1	879.1	748.2	331.7	85.11
14.9	63.0	2,123.1	938.7	791.9	356.2	84.37
14.8	67.0	2,092.7	991.6	834.3	380.7	84.14
14.8	71.0	2,063.0	1,050.8	875.6	405.3	83.33
14.8	75.0	2,033.8	1,110.0	915.4	429.8	82.47
14.8	79.0	2,005.3	1,169.2	954.0	454.3	81.59
14.8	83.0	1,977.2	1,228.4	991.6	478.9	80.72
14.8	87.0	1,949.7	1,287.6	1,027.8	503.4	79.82
14.8	91.0	1,922.6	1,346.8	1,062.8	527.9	78.92
14.8	95.0	1,895.9	1,406.0	1,096.9	552.5	78.02
14.8	99.0	1,869.6	1,465.2	1,129.7	577.0	77.10
14.8	103.0	1,843.7	1,524.4	1,161.3	601.5	76.18
14.8	107.0	1,818.0	1,583.6	1,192.0	626.1	75.27
14.7	111.0	1,792.6	1,631.7	1,221.3	650.6	74.85
14.7	115.0	1,767.4	1,690.5	1,249.5	675.1	73.91

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
14.7	119.0	1,742.4	1,749.3	1,276.5	699.6	72.97
14.7	123.0	1,717.6	1,808.1	1,302.6	724.2	72.04
14.7	127.0	1,692.9	1,866.9	1,327.3	748.7	71.10
14.7	131.0	1,668.2	1,925.7	1,350.7	773.2	70.14
14.7	135.0	1,643.6	1,984.5	1,373.2	797.8	69.19
14.7	139.0	1,618.9	2,043.3	1,394.1	822.3	68.23
14.7	143.0	1,594.2	2,102.1	1,413.7	846.8	67.25
14.7	147.0	1,569.5	2,160.9	1,432.2	871.4	66.28
14.7	151.0	1,544.6	2,219.7	1,449.1	895.9	65.28
14.6	155.0	1,519.5	2,263.0	1,464.6	920.4	64.72
14.6	159.0	1,494.3	2,321.4	1,478.8	945.0	63.70
14.6	163.0	1,468.8	2,379.8	1,491.2	969.5	62.66
14.6	167.0	1,443.0	2,438.2	1,502.0	994.0	61.60
14.6	171.0	1,417.0	2,496.6	1,511.5	1,018.6	60.54
14.6	175.0	1,390.5	2,555.0	1,518.9	1,043.1	59.45
14.6	179.0	1,363.7	2,613.4	1,524.6	1,067.6	58.34
14.6	183.0	1,336.5	2,671.8	1,528.5	1,092.1	57.21
14.6	187.0	1,308.8	2,730.2	1,530.5	1,116.7	56.06
14.6	191.0	1,280.6	2,788.6	1,530.4	1,141.2	54.88
14.6	195.0	1,251.8	2,847.0	1,528.1	1,165.7	53.67
14.5	199.0	1,222.5	2,885.5	1,523.8	1,190.3	52.81
14.5	203.0	1,192.5	2,943.5	1,517.0	1,214.8	51.54
14.5	207.0	1,161.9	3,001.5	1,507.9	1,239.3	50.24
14.5	211.0	1,130.6	3,059.5	1,496.4	1,263.9	48.91
14.5	215.0	1,098.6	3,117.5	1,482.2	1,288.4	47.55
14.5	219.0	1,065.7	3,175.5	1,465.2	1,312.9	46.14
14.5	223.0	1,032.1	3,233.5	1,445.6	1,337.5	44.71
14.5	227.0	997.6	3,291.5	1,422.9	1,362.0	43.23
14.5	231.0	962.3	3,349.5	1,397.2	1,386.5	41.71
14.5	235.0	926.0	3,407.5	1,368.3	1,411.0	40.15
14.5	239.0	888.8	3,465.5	1,336.2	1,435.6	38.56
14.4	243.0	850.5	3,499.2	1,300.4	1,460.1	37.16
14.4	247.0	811.2	3,556.8	1,261.1	1,484.6	35.46
14.4	251.0	770.9	3,614.4	1,218.4	1,509.2	33.71

nl = rpm with no load

lo = current with no load

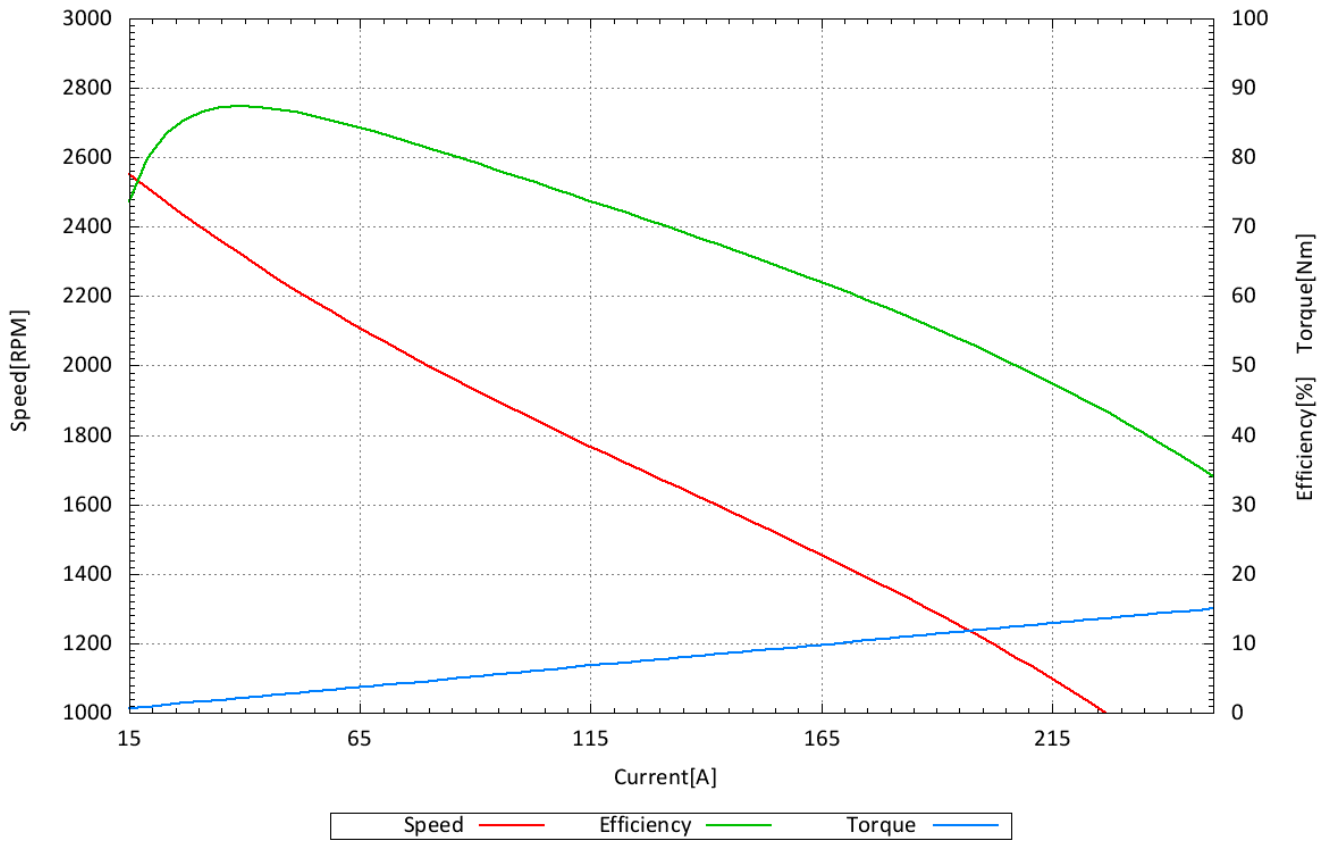
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP875_20_B6_P30_15V_MST60-290_16042024



Report calculated on Test Bench Results

Motor type: **NOVA 15-20-B6 P30**

Date: 16.04.2024

Bearing type: regular

Controller: MST 60-290

Measuring Parameter

Voltage: **20.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 3,429.7 [RPM] lo: 6.5 [A] kv: 174.3 [RPM/V] kn: -8.65 [RPM/A] kT: 6.31 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
20.0	15.0	3,423.6	300.0	193.2	53.9	64.41
20.0	19.0	3,373.3	380.0	279.4	79.1	73.53
20.0	23.0	3,324.4	460.0	363.1	104.3	78.93
19.9	27.0	3,276.9	537.3	444.7	129.6	82.77
19.9	31.0	3,230.8	616.9	523.7	154.8	84.90
19.9	35.0	3,186.0	696.5	600.5	180.0	86.22
19.9	39.0	3,142.5	776.1	675.6	205.3	87.05
19.9	43.0	3,100.2	855.7	748.3	230.5	87.45
19.9	47.0	3,059.0	935.3	819.1	255.7	87.58
19.9	51.0	3,018.9	1,014.9	888.3	281.0	87.53
19.9	55.0	2,979.9	1,094.5	955.5	306.2	87.30
19.9	59.0	2,941.9	1,174.1	1,021.3	331.5	86.98
19.9	63.0	2,904.8	1,253.7	1,085.0	356.7	86.55
19.9	67.0	2,868.6	1,333.3	1,147.2	381.9	86.04
19.9	71.0	2,833.3	1,412.9	1,208.2	407.2	85.51
19.9	75.0	2,798.7	1,492.5	1,267.3	432.4	84.91
19.8	79.0	2,764.9	1,564.2	1,324.9	457.6	84.70
19.8	83.0	2,731.7	1,643.4	1,381.4	482.9	84.06
19.8	87.0	2,699.2	1,722.6	1,436.2	508.1	83.37
19.8	91.0	2,667.3	1,801.8	1,489.6	533.3	82.67
19.8	95.0	2,635.9	1,881.0	1,541.9	558.6	81.97
19.8	99.0	2,605.0	1,960.2	1,592.6	583.8	81.25
19.8	103.0	2,574.5	2,039.4	1,641.9	609.0	80.51
19.8	107.0	2,544.3	2,118.6	1,690.0	634.3	79.77
19.8	111.0	2,514.5	2,197.8	1,736.6	659.5	79.01
19.8	115.0	2,485.0	2,277.0	1,781.8	684.7	78.25

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
19.8	119.0	2,455.7	2,356.2	1,825.8	710.0	77.49
19.8	123.0	2,426.5	2,435.4	1,868.2	735.2	76.71
19.7	127.0	2,397.4	2,501.9	1,909.3	760.5	76.31
19.7	131.0	2,368.4	2,580.7	1,948.7	785.7	75.51
19.7	135.0	2,339.4	2,659.5	1,986.6	810.9	74.70
19.7	139.0	2,310.4	2,738.3	2,023.1	836.2	73.88
19.7	143.0	2,281.3	2,817.1	2,057.9	861.4	73.05
19.7	147.0	2,252.0	2,895.9	2,090.9	886.6	72.20
19.7	151.0	2,222.5	2,974.7	2,122.4	911.9	71.35
19.7	155.0	2,192.7	3,053.5	2,151.8	937.1	70.47
19.7	159.0	2,162.7	3,132.3	2,179.4	962.3	69.58
19.7	163.0	2,132.3	3,211.1	2,205.3	987.6	68.68
19.7	167.0	2,101.4	3,289.9	2,228.7	1,012.8	67.75
19.7	171.0	2,070.2	3,368.7	2,250.3	1,038.0	66.80
19.7	175.0	2,038.4	3,447.5	2,269.7	1,063.3	65.84
19.6	179.0	2,006.0	3,508.4	2,286.6	1,088.5	65.17
19.6	183.0	1,973.0	3,586.8	2,301.2	1,113.8	64.16
19.6	187.0	1,939.3	3,665.2	2,313.1	1,139.0	63.11
19.6	191.0	1,905.0	3,743.6	2,322.5	1,164.2	62.04
19.6	195.0	1,869.8	3,822.0	2,329.1	1,189.5	60.94
19.6	199.0	1,833.8	3,900.4	2,332.7	1,214.7	59.81
19.6	203.0	1,797.0	3,978.8	2,333.3	1,239.9	58.64
19.6	207.0	1,759.2	4,057.2	2,330.8	1,265.2	57.45
19.6	211.0	1,720.4	4,135.6	2,324.8	1,290.4	56.21
19.6	215.0	1,680.5	4,214.0	2,315.2	1,315.6	54.94
19.6	219.0	1,639.6	4,292.4	2,302.3	1,340.9	53.64
19.6	223.0	1,597.6	4,370.8	2,285.5	1,366.1	52.29
19.6	227.0	1,554.3	4,449.2	2,264.6	1,391.3	50.90
19.5	231.0	1,509.9	4,504.5	2,239.9	1,416.6	49.73
19.5	235.0	1,464.1	4,582.5	2,210.6	1,441.8	48.24
19.5	239.0	1,416.9	4,660.5	2,176.7	1,467.0	46.71
19.5	243.0	1,368.4	4,738.5	2,138.4	1,492.3	45.13
19.5	247.0	1,318.4	4,816.5	2,095.1	1,517.5	43.50
19.5	251.0	1,266.9	4,894.5	2,046.8	1,542.8	41.82

nl = rpm with no load

lo = current with no load

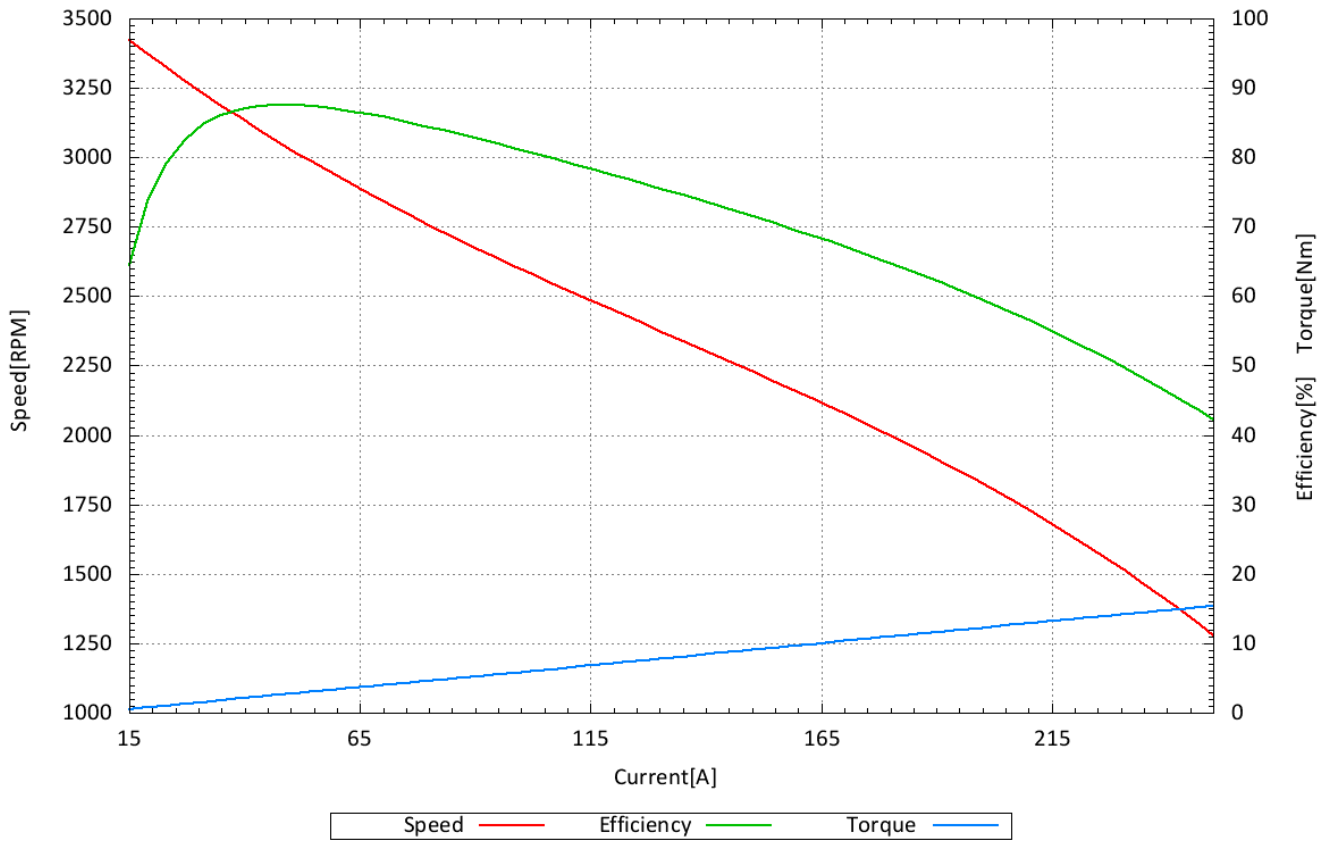
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP875_20_B6_P30_20V_MST60-290_16042024



Report calculated on Test Bench Results

Motor type: **NOVA 15-20-B6 P30**

Date: 16.04.2024

Bearing type: regular

Controller: MST 60-290

Measuring Parameter

Voltage: **25.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 4,246.8 [RPM] lo: 6.7 [A] kv: 172.5 [RPM/V] kn: -9.69 [RPM/A] kT: 6.38 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
25.0	15.0	4,250.1	375.0	236.8	53.2	63.14
25.0	19.0	4,193.1	475.0	345.6	78.7	72.75
24.9	23.0	4,137.7	572.7	451.5	104.2	78.84
24.9	27.0	4,083.9	672.3	555.1	129.8	82.57
24.9	31.0	4,031.8	771.9	655.7	155.3	84.95
24.9	35.0	3,981.1	871.5	753.8	180.8	86.49
24.9	39.0	3,931.9	971.1	849.8	206.4	87.51
24.9	43.0	3,884.1	1,070.7	943.2	231.9	88.10
24.9	47.0	3,837.5	1,170.3	1,034.4	257.4	88.39
24.9	51.0	3,792.3	1,269.9	1,123.9	283.0	88.50
24.9	55.0	3,748.2	1,369.5	1,210.9	308.5	88.42
24.9	59.0	3,705.3	1,469.1	1,296.4	334.1	88.24
24.8	63.0	3,663.5	1,562.4	1,379.6	359.6	88.30
24.8	67.0	3,622.7	1,661.6	1,460.9	385.1	87.92
24.8	71.0	3,582.9	1,760.8	1,540.9	410.7	87.51
24.8	75.0	3,543.9	1,860.0	1,618.8	436.2	87.03
24.8	79.0	3,505.8	1,959.2	1,695.0	461.7	86.52
24.8	83.0	3,468.5	2,058.4	1,770.0	487.3	85.99
24.8	87.0	3,431.9	2,157.6	1,842.9	512.8	85.42
24.8	91.0	3,395.9	2,256.8	1,914.6	538.4	84.84
24.8	95.0	3,360.5	2,356.0	1,984.4	563.9	84.23
24.8	99.0	3,325.7	2,455.2	2,052.7	589.4	83.61
24.8	103.0	3,291.4	2,554.4	2,119.7	615.0	82.98
24.7	107.0	3,257.4	2,642.9	2,184.8	640.5	82.67
24.7	111.0	3,223.8	2,741.7	2,248.4	666.0	82.01
24.7	115.0	3,190.6	2,840.5	2,310.8	691.6	81.35

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
24.7	119.0	3,157.5	2,939.3	2,371.1	717.1	80.67
24.7	123.0	3,124.6	3,038.1	2,430.2	742.7	79.99
24.7	127.0	3,091.9	3,136.9	2,487.3	768.2	79.29
24.7	131.0	3,059.1	3,235.7	2,542.6	793.7	78.58
24.7	135.0	3,026.4	3,334.5	2,596.6	819.3	77.87
24.7	139.0	2,993.6	3,433.3	2,648.4	844.8	77.14
24.7	143.0	2,960.7	3,532.1	2,698.3	870.3	76.39
24.6	147.0	2,927.5	3,616.2	2,746.5	895.9	75.95
24.6	151.0	2,894.2	3,714.6	2,792.6	921.4	75.18
24.6	155.0	2,860.5	3,813.0	2,836.7	947.0	74.40
24.6	159.0	2,826.4	3,911.4	2,878.4	972.5	73.59
24.6	163.0	2,791.9	4,009.8	2,917.8	998.0	72.77
24.6	167.0	2,756.9	4,108.2	2,955.2	1,023.6	71.93
24.6	171.0	2,721.4	4,206.6	2,989.8	1,049.1	71.07
24.6	175.0	2,685.2	4,305.0	3,021.7	1,074.6	70.19
24.6	179.0	2,648.4	4,403.4	3,051.3	1,100.2	69.29
24.6	183.0	2,610.8	4,501.8	3,077.7	1,125.7	68.37
24.5	187.0	2,572.4	4,581.5	3,101.1	1,151.2	67.69
24.5	191.0	2,533.2	4,679.5	3,121.8	1,176.8	66.71
24.5	195.0	2,493.1	4,777.5	3,138.9	1,202.3	65.70
24.5	199.0	2,451.9	4,875.5	3,152.8	1,227.9	64.67
24.5	203.0	2,409.8	4,973.5	3,163.0	1,253.4	63.60
24.5	207.0	2,366.5	5,071.5	3,169.4	1,278.9	62.49
24.5	211.0	2,322.1	5,169.5	3,172.1	1,304.5	61.36
24.5	215.0	2,276.4	5,267.5	3,170.5	1,330.0	60.19
24.5	219.0	2,229.5	5,365.5	3,164.7	1,355.5	58.98
24.5	223.0	2,181.2	5,463.5	3,154.6	1,381.1	57.74
24.5	227.0	2,131.5	5,561.5	3,139.7	1,406.6	56.45
24.4	231.0	2,080.4	5,636.4	3,120.2	1,432.2	55.36
24.4	235.0	2,027.7	5,734.0	3,095.3	1,457.7	53.98
24.4	239.0	1,973.4	5,831.6	3,065.1	1,483.2	52.56
24.4	243.0	1,917.5	5,929.2	3,029.7	1,508.8	51.10
24.4	247.0	1,859.9	6,026.8	2,988.3	1,534.3	49.58
24.4	251.0	1,800.6	6,124.4	2,941.1	1,559.8	48.02

nl = rpm with no load

lo = current with no load

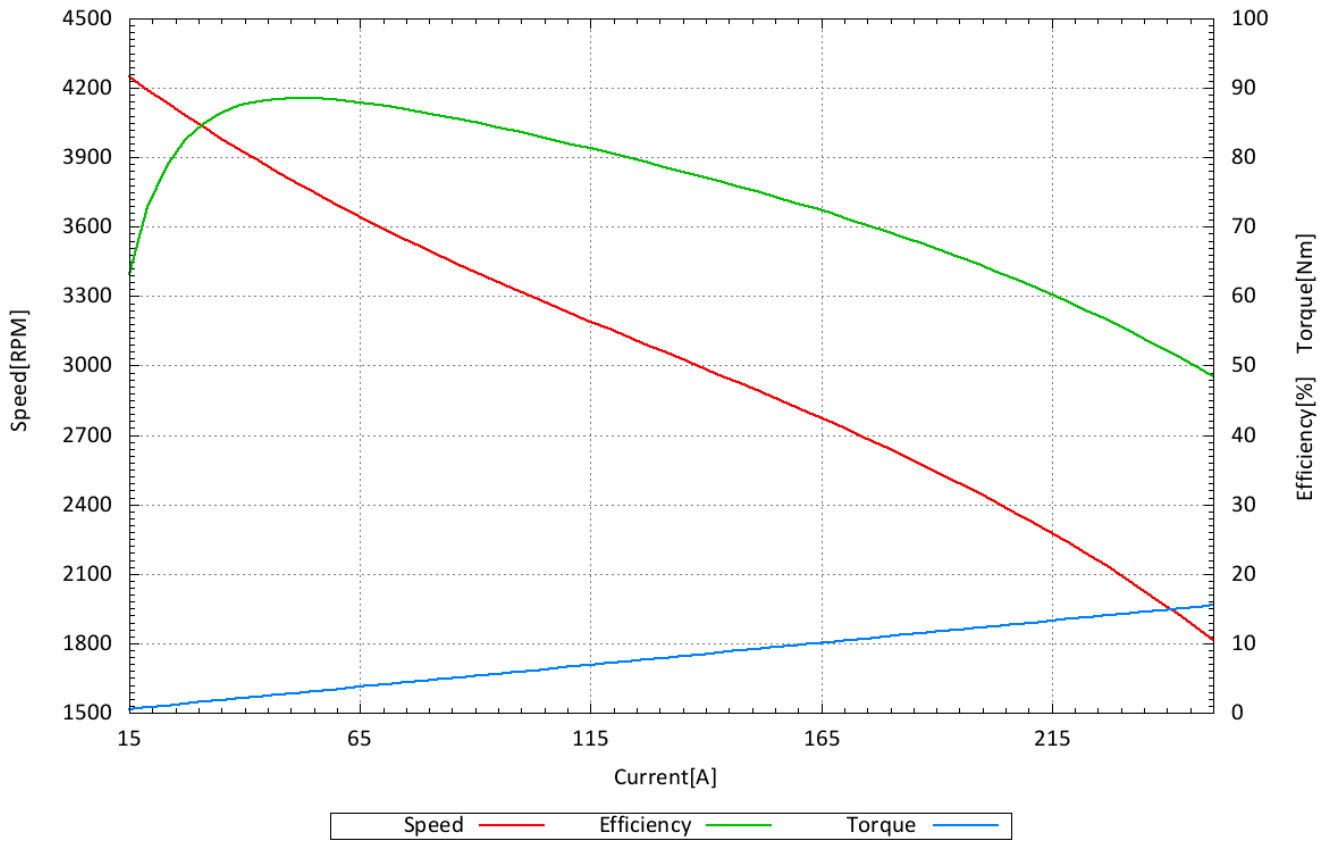
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP875_20_B6_P30_25V_MST60-290_16042024



Report calculated on Test Bench Results

Motor type: **NOVA 15-20-B6 P30**

Date: 16.04.2024

Bearing type: regular

Controller: MST 60-290

Measuring Parameter

Voltage: **30.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 5,058.5 [RPM] lo: 5.0 [A] kv: 170.3 [RPM/V] kn: -10.30 [RPM/A] kT: 6.35 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
30.0	15.0	5,090.9	450.0	338.0	63.4	75.11
30.0	19.0	5,027.8	570.0	467.5	88.8	82.02
29.9	23.0	4,966.3	687.7	593.4	114.1	86.29
29.9	27.0	4,906.5	807.3	716.8	139.5	88.79
29.9	31.0	4,848.3	926.9	837.2	164.9	90.32
29.9	35.0	4,791.6	1,046.5	954.9	190.3	91.24
29.9	39.0	4,736.5	1,166.1	1,069.9	215.7	91.75
29.9	43.0	4,682.8	1,285.7	1,182.3	241.1	91.96
29.9	47.0	4,630.4	1,405.3	1,291.8	266.4	91.92
29.9	51.0	4,579.5	1,524.9	1,399.4	291.8	91.77
29.9	55.0	4,529.8	1,644.5	1,504.7	317.2	91.50
29.9	59.0	4,481.3	1,764.1	1,607.8	342.6	91.14
29.9	63.0	4,434.1	1,883.7	1,708.8	368.0	90.71
29.9	67.0	4,388.0	2,003.3	1,807.3	393.3	90.21
29.8	71.0	4,342.9	2,115.8	1,904.2	418.7	90.00
29.8	75.0	4,299.0	2,235.0	1,999.3	444.1	89.45
29.8	79.0	4,256.0	2,354.2	2,092.5	469.5	88.88
29.8	83.0	4,213.9	2,473.4	2,183.9	494.9	88.29
29.8	87.0	4,172.7	2,592.6	2,273.5	520.3	87.69
29.8	91.0	4,132.3	2,711.8	2,361.0	545.6	87.06
29.8	95.0	4,092.8	2,831.0	2,447.3	571.0	86.45
29.8	99.0	4,053.9	2,950.2	2,531.9	596.4	85.82
29.8	103.0	4,015.7	3,069.4	2,614.8	621.8	85.19
29.8	107.0	3,978.2	3,188.6	2,696.2	647.2	84.56
29.8	111.0	3,941.2	3,307.8	2,775.6	672.5	83.91
29.7	115.0	3,904.8	3,415.5	2,853.8	697.9	83.55

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
29.7	119.0	3,868.8	3,534.3	2,930.4	723.3	82.91
29.7	123.0	3,833.2	3,653.1	3,005.4	748.7	82.27
29.7	127.0	3,798.1	3,771.9	3,078.9	774.1	81.63
29.7	131.0	3,763.2	3,890.7	3,150.7	799.5	80.98
29.7	135.0	3,728.6	4,009.5	3,220.5	824.8	80.32
29.7	139.0	3,694.2	4,128.3	3,289.0	850.2	79.67
29.7	143.0	3,660.0	4,247.1	3,355.9	875.6	79.02
29.7	147.0	3,625.9	4,365.9	3,421.1	901.0	78.36
29.7	151.0	3,591.8	4,484.7	3,484.5	926.4	77.70
29.7	155.0	3,557.8	4,603.5	3,546.1	951.8	77.03
29.7	159.0	3,523.7	4,722.3	3,605.5	977.1	76.35
29.6	163.0	3,489.6	4,824.8	3,663.4	1,002.5	75.93
29.6	167.0	3,455.3	4,943.2	3,719.3	1,027.9	75.24
29.6	171.0	3,420.8	5,061.6	3,773.2	1,053.3	74.55
29.6	175.0	3,386.0	5,180.0	3,824.9	1,078.7	73.84
29.6	179.0	3,351.0	5,298.4	3,874.1	1,104.0	73.12
29.6	183.0	3,315.6	5,416.8	3,921.4	1,129.4	72.39
29.6	187.0	3,279.8	5,535.2	3,966.3	1,154.8	71.66
29.6	191.0	3,243.6	5,653.6	4,008.8	1,180.2	70.91
29.6	195.0	3,206.9	5,772.0	4,048.7	1,205.6	70.14
29.6	199.0	3,169.6	5,890.4	4,085.9	1,231.0	69.37
29.6	203.0	3,131.7	6,008.8	4,120.0	1,256.3	68.57
29.5	207.0	3,093.1	6,106.5	4,151.5	1,281.7	67.99
29.5	211.0	3,053.9	6,224.5	4,180.2	1,307.1	67.16
29.5	215.0	3,013.9	6,342.5	4,205.6	1,332.5	66.31
29.5	219.0	2,973.0	6,460.5	4,227.6	1,357.9	65.44
29.5	223.0	2,931.4	6,578.5	4,246.1	1,383.2	64.54
29.5	227.0	2,888.8	6,696.5	4,261.2	1,408.6	63.63
29.5	231.0	2,845.2	6,814.5	4,272.6	1,434.0	62.70
29.5	235.0	2,800.7	6,932.5	4,280.3	1,459.4	61.74
29.5	239.0	2,755.0	7,050.5	4,283.7	1,484.8	60.76
29.5	243.0	2,708.3	7,168.5	4,283.1	1,510.2	59.75
29.5	247.0	2,660.4	7,286.5	4,277.8	1,535.5	58.71
29.4	251.0	2,611.2	7,379.4	4,268.2	1,560.9	57.84

nl = rpm with no load

lo = current with no load

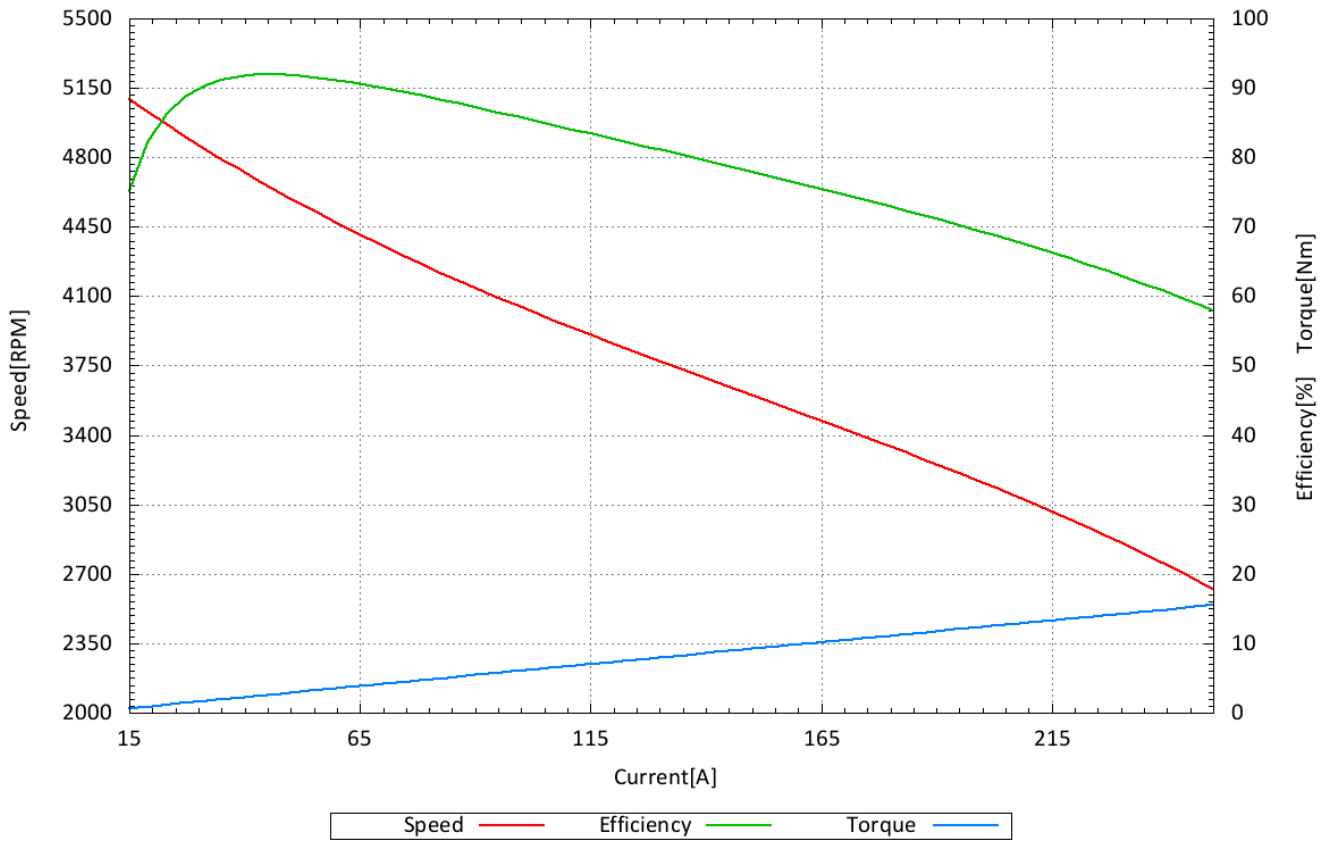
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP875_20_B6_P30_30V_MST60-290_16042024



Report calculated on Test Bench Results

Motor type: **NOVA 15-20-B6 P30**

Date: 16.04.2024

Bearing type: regular

Controller: MST 60-290

Measuring Parameter

Voltage: **35.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 5,870.7 [RPM] lo: 5.6 [A] kv: 169.5 [RPM/V] kn: -11.15 [RPM/A] kT: 6.43 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
35.0	15.0	5,922.3	525.0	374.6	60.4	71.35
35.0	19.0	5,852.2	665.0	527.7	86.1	79.35
35.0	23.0	5,784.1	805.0	677.2	111.8	84.12
34.9	27.0	5,717.9	942.3	823.9	137.6	87.44
34.9	31.0	5,653.5	1,081.9	966.8	163.3	89.36
34.9	35.0	5,590.8	1,221.5	1,106.5	189.0	90.59
34.9	39.0	5,529.8	1,361.1	1,243.3	214.7	91.34
34.9	43.0	5,470.5	1,500.7	1,377.8	240.5	91.81
34.9	47.0	5,412.8	1,640.3	1,508.9	266.2	91.99
34.9	51.0	5,356.5	1,779.9	1,637.4	291.9	91.99
34.9	55.0	5,301.7	1,919.5	1,763.3	317.6	91.86
34.9	59.0	5,248.4	2,059.1	1,887.4	343.4	91.66
34.9	63.0	5,196.3	2,198.7	2,008.5	369.1	91.35
34.9	67.0	5,145.5	2,338.3	2,127.3	394.8	90.98
34.9	71.0	5,096.0	2,477.9	2,244.0	420.5	90.56
34.8	75.0	5,047.6	2,610.0	2,359.1	446.3	90.39
34.8	79.0	5,000.2	2,749.2	2,471.5	472.0	89.90
34.8	83.0	4,954.0	2,888.4	2,582.0	497.7	89.39
34.8	87.0	4,908.7	3,027.6	2,690.5	523.4	88.86
34.8	91.0	4,864.3	3,166.8	2,797.6	549.2	88.34
34.8	95.0	4,820.8	3,306.0	2,902.3	574.9	87.79
34.8	99.0	4,778.0	3,445.2	3,005.1	600.6	87.23
34.8	103.0	4,736.0	3,584.4	3,106.6	626.4	86.67
34.8	107.0	4,694.7	3,723.6	3,205.9	652.1	86.10
34.8	111.0	4,654.0	3,862.8	3,303.4	677.8	85.52
34.8	115.0	4,613.9	4,002.0	3,399.1	703.5	84.93

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
34.8	119.0	4,574.2	4,141.2	3,493.4	729.3	84.36
34.7	123.0	4,535.0	4,268.1	3,585.5	755.0	84.01
34.7	127.0	4,496.2	4,406.9	3,675.9	780.7	83.41
34.7	131.0	4,457.7	4,545.7	3,764.3	806.4	82.81
34.7	135.0	4,419.4	4,684.5	3,851.4	832.2	82.22
34.7	139.0	4,381.3	4,823.3	3,936.1	857.9	81.61
34.7	143.0	4,343.4	4,962.1	4,019.0	883.6	80.99
34.7	147.0	4,305.6	5,100.9	4,099.9	909.3	80.38
34.7	151.0	4,267.7	5,239.7	4,179.1	935.1	79.76
34.7	155.0	4,229.9	5,378.5	4,255.9	960.8	79.13
34.7	159.0	4,191.9	5,517.3	4,330.5	986.5	78.49
34.7	163.0	4,153.8	5,656.1	4,402.9	1,012.2	77.84
34.6	167.0	4,115.4	5,778.2	4,473.4	1,038.0	77.42
34.6	171.0	4,076.8	5,916.6	4,541.2	1,063.7	76.75
34.6	175.0	4,037.8	6,055.0	4,606.4	1,089.4	76.08
34.6	179.0	3,998.4	6,193.4	4,669.1	1,115.1	75.39
34.6	183.0	3,958.6	6,331.8	4,729.5	1,140.9	74.69
34.6	187.0	3,918.2	6,470.2	4,786.7	1,166.6	73.98
34.6	191.0	3,877.3	6,608.6	4,841.1	1,192.3	73.25
34.6	195.0	3,835.7	6,747.0	4,892.4	1,218.0	72.51
34.6	199.0	3,793.4	6,885.4	4,940.9	1,243.8	71.76
34.6	203.0	3,750.3	7,023.8	4,985.7	1,269.5	70.98
34.6	207.0	3,706.5	7,162.2	5,027.2	1,295.2	70.19
34.6	211.0	3,661.7	7,300.6	5,065.0	1,320.9	69.38
34.5	215.0	3,616.0	7,417.5	5,099.5	1,346.7	68.75
34.5	219.0	3,569.3	7,555.5	5,129.7	1,372.4	67.89
34.5	223.0	3,521.6	7,693.5	5,155.9	1,398.1	67.02
34.5	227.0	3,472.7	7,831.5	5,178.2	1,423.9	66.12
34.5	231.0	3,422.6	7,969.5	5,195.6	1,449.6	65.19
34.5	235.0	3,371.3	8,107.5	5,208.4	1,475.3	64.24
34.5	239.0	3,318.7	8,245.5	5,216.5	1,501.0	63.26
34.5	243.0	3,264.8	8,383.5	5,220.0	1,526.8	62.26
34.5	247.0	3,209.4	8,521.5	5,217.8	1,552.5	61.23
34.5	251.0	3,152.5	8,659.5	5,210.1	1,578.2	60.17

nl = rpm with no load

lo = current with no load

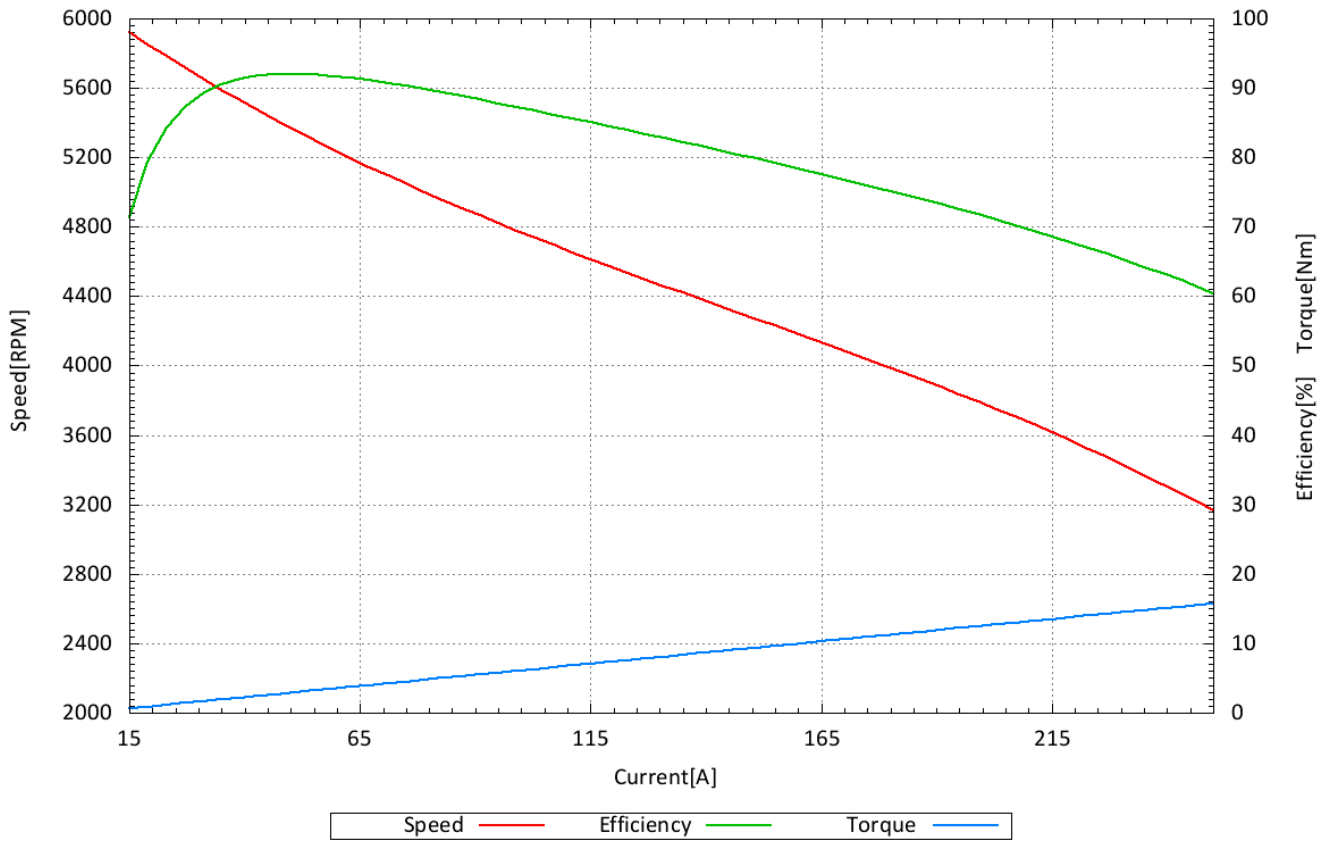
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP875_20_B6_P30_35V_MST60-290_16042024



Report calculated on Test Bench Results

Motor type: **NOVA 15-20-B6 P30**

Date: 16.04.2024

Bearing type: regular

Controller: MST 60-290

Measuring Parameter

Voltage: **40.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 6,666.7 [RPM] lo: 6.8 [A] kv: 168.7 [RPM/V] kn: -12.03 [RPM/A] kT: 6.46 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
40.0	15.0	6,758.0	600.0	377.2	53.3	62.87
40.0	19.0	6,680.9	760.0	553.4	79.1	72.82
40.0	23.0	6,606.1	920.0	726.4	105.0	78.95
39.9	27.0	6,533.3	1,077.3	894.9	130.8	83.07
39.9	31.0	6,462.5	1,236.9	1,060.5	156.7	85.74
39.9	35.0	6,393.7	1,396.5	1,221.9	182.5	87.50
39.9	39.0	6,326.8	1,556.1	1,380.7	208.4	88.73
39.9	43.0	6,261.7	1,715.7	1,535.7	234.2	89.51
39.9	47.0	6,198.4	1,875.3	1,688.3	260.1	90.03
39.9	51.0	6,136.7	2,034.9	1,837.3	285.9	90.29
39.9	55.0	6,076.7	2,194.5	1,984.1	311.8	90.41
39.9	59.0	6,018.2	2,354.1	2,127.6	337.6	90.38
39.9	63.0	5,961.2	2,513.7	2,269.2	363.5	90.27
39.9	67.0	5,905.7	2,673.3	2,407.6	389.3	90.06
39.9	71.0	5,851.5	2,832.9	2,544.2	415.2	89.81
39.8	75.0	5,798.5	2,985.0	2,677.8	441.0	89.71
39.8	79.0	5,746.8	3,144.2	2,809.8	466.9	89.37
39.8	83.0	5,696.3	3,303.4	2,939.0	492.7	88.97
39.8	87.0	5,646.8	3,462.6	3,066.6	518.6	88.56
39.8	91.0	5,598.4	3,621.8	3,191.6	544.4	88.12
39.8	95.0	5,550.9	3,781.0	3,315.1	570.3	87.68
39.8	99.0	5,504.3	3,940.2	3,436.0	596.1	87.20
39.8	103.0	5,458.5	4,099.4	3,555.4	622.0	86.73
39.8	107.0	5,413.5	4,258.6	3,672.4	647.8	86.23
39.8	111.0	5,369.1	4,417.8	3,787.9	673.7	85.74
39.8	115.0	5,325.4	4,577.0	3,900.9	699.5	85.23

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
39.8	119.0	5,282.2	4,736.2	4,012.6	725.4	84.72
39.7	123.0	5,239.5	4,883.1	4,121.7	751.2	84.41
39.7	127.0	5,197.3	5,041.9	4,229.4	777.1	83.89
39.7	131.0	5,155.4	5,200.7	4,334.6	802.9	83.35
39.7	135.0	5,113.7	5,359.5	4,438.3	828.8	82.81
39.7	139.0	5,072.3	5,518.3	4,539.4	854.6	82.26
39.7	143.0	5,031.0	5,677.1	4,638.9	880.5	81.71
39.7	147.0	4,989.8	5,835.9	4,735.7	906.3	81.15
39.7	151.0	4,948.7	5,994.7	4,830.9	932.2	80.59
39.7	155.0	4,907.5	6,153.5	4,923.3	958.0	80.01
39.7	159.0	4,866.1	6,312.3	5,013.7	983.9	79.43
39.7	163.0	4,824.6	6,471.1	5,101.3	1,009.7	78.83
39.7	167.0	4,782.8	6,629.9	5,186.8	1,035.6	78.23
39.6	171.0	4,740.7	6,771.6	5,269.3	1,061.4	77.81
39.6	175.0	4,698.3	6,930.0	5,349.1	1,087.2	77.19
39.6	179.0	4,655.3	7,088.4	5,426.4	1,113.1	76.55
39.6	183.0	4,611.9	7,246.8	5,500.4	1,138.9	75.90
39.6	187.0	4,567.9	7,405.2	5,571.8	1,164.8	75.24
39.6	191.0	4,523.2	7,563.6	5,639.5	1,190.6	74.56
39.6	195.0	4,477.8	7,722.0	5,704.3	1,216.5	73.87
39.6	199.0	4,431.6	7,880.4	5,765.2	1,242.3	73.16
39.6	203.0	4,384.6	8,038.8	5,823.0	1,268.2	72.44
39.6	207.0	4,336.6	8,197.2	5,876.4	1,294.0	71.69
39.6	211.0	4,287.7	8,355.6	5,926.4	1,319.9	70.93
39.5	215.0	4,237.7	8,492.5	5,971.8	1,345.7	70.32
39.5	219.0	4,186.6	8,650.5	6,013.4	1,371.6	69.51
39.5	223.0	4,134.3	8,808.5	6,049.9	1,397.4	68.68
39.5	227.0	4,080.7	8,966.5	6,082.2	1,423.3	67.83
39.5	231.0	4,025.8	9,124.5	6,109.1	1,449.1	66.95
39.5	235.0	3,969.6	9,282.5	6,131.5	1,475.0	66.05
39.5	239.0	3,911.8	9,440.5	6,147.9	1,500.8	65.12
39.5	243.0	3,852.6	9,598.5	6,159.4	1,526.7	64.17
39.5	247.0	3,791.8	9,756.5	6,164.6	1,552.5	63.18
39.5	251.0	3,729.3	9,914.5	6,164.1	1,578.4	62.17

nl = rpm with no load

lo = current with no load

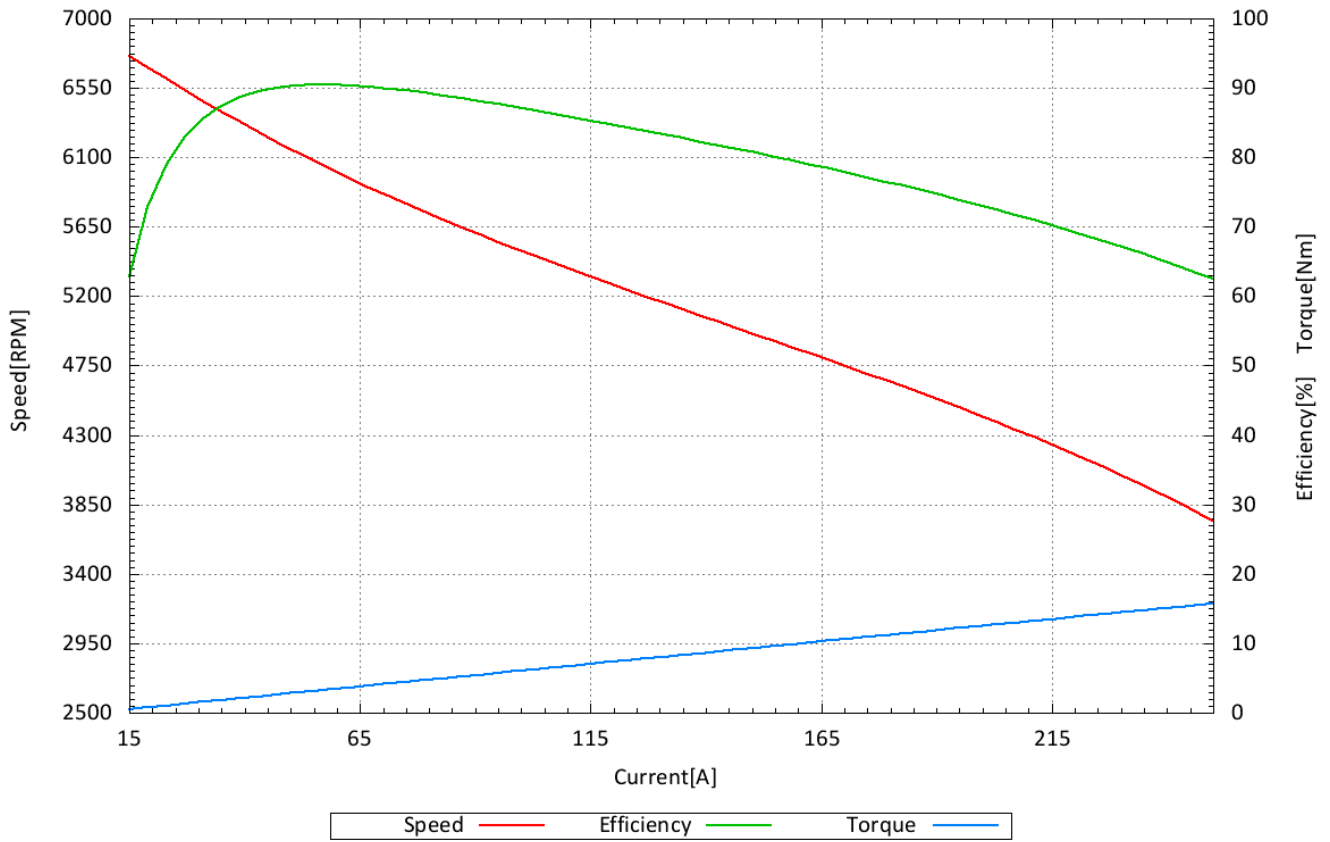
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP875_20_B6_P30_40V_MST60-290_16042024



Report calculated on Test Bench Results

Motor type: **NOVA 15-20-B6 P30**

Date: 16.04.2024

Bearing type: regular

Controller: MST 60-290

Measuring Parameter

Voltage: **45.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 7,454.4 [RPM] lo: 6.6 [A] kv: 167.5 [RPM/V] kn: -12.66 [RPM/A] kT: 6.42 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
45.0	15.0	7,545.2	675.0	425.9	53.9	63.09
45.0	19.0	7,465.0	855.0	622.3	79.6	72.78
44.9	23.0	7,386.8	1,032.7	813.8	105.2	78.80
44.9	27.0	7,310.7	1,212.3	1,002.1	130.9	82.66
44.9	31.0	7,236.5	1,391.9	1,186.7	156.6	85.26
44.9	35.0	7,164.1	1,571.5	1,366.9	182.2	86.98
44.9	39.0	7,093.6	1,751.1	1,544.4	207.9	88.19
44.9	43.0	7,024.9	1,930.7	1,718.5	233.6	89.01
44.9	47.0	6,957.8	2,110.3	1,888.6	259.2	89.49
44.9	51.0	6,892.4	2,289.9	2,056.3	284.9	89.80
44.9	55.0	6,828.6	2,469.5	2,220.4	310.5	89.91
44.9	59.0	6,766.4	2,649.1	2,382.2	336.2	89.93
44.9	63.0	6,705.6	2,828.7	2,541.3	361.9	89.84
44.8	67.0	6,646.2	3,001.6	2,697.0	387.5	89.85
44.8	71.0	6,588.2	3,180.8	2,850.7	413.2	89.62
44.8	75.0	6,531.5	3,360.0	3,002.0	438.9	89.34
44.8	79.0	6,476.0	3,539.2	3,150.1	464.5	89.01
44.8	83.0	6,421.7	3,718.4	3,296.5	490.2	88.65
44.8	87.0	6,368.6	3,897.6	3,440.6	515.9	88.28
44.8	91.0	6,316.5	4,076.8	3,581.8	541.5	87.86
44.8	95.0	6,265.4	4,256.0	3,721.5	567.2	87.44
44.8	99.0	6,215.3	4,435.2	3,858.3	592.8	86.99
44.8	103.0	6,166.1	4,614.4	3,993.7	618.5	86.55
44.7	107.0	6,117.7	4,782.9	4,127.0	644.2	86.29
44.7	111.0	6,070.1	4,961.7	4,257.6	669.8	85.81
44.7	115.0	6,023.3	5,140.5	4,386.9	695.5	85.34

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
44.7	119.0	5,977.1	5,319.3	4,514.1	721.2	84.86
44.7	123.0	5,931.5	5,498.1	4,638.7	746.8	84.37
44.7	127.0	5,886.4	5,676.9	4,761.9	772.5	83.88
44.7	131.0	5,841.9	5,855.7	4,883.1	798.2	83.39
44.7	135.0	5,797.7	6,034.5	5,001.6	823.8	82.88
44.7	139.0	5,754.0	6,213.3	5,118.7	849.5	82.38
44.7	143.0	5,710.6	6,392.1	5,233.8	875.2	81.88
44.7	147.0	5,667.4	6,570.9	5,346.1	900.8	81.36
44.6	151.0	5,624.4	6,734.6	5,457.0	926.5	81.03
44.6	155.0	5,581.6	6,913.0	5,565.1	952.1	80.50
44.6	159.0	5,538.8	7,091.4	5,671.5	977.8	79.98
44.6	163.0	5,496.1	7,269.8	5,775.6	1,003.5	79.45
44.6	167.0	5,453.4	7,448.2	5,877.0	1,029.1	78.90
44.6	171.0	5,410.6	7,626.6	5,976.5	1,054.8	78.36
44.6	175.0	5,367.6	7,805.0	6,073.4	1,080.5	77.81
44.6	179.0	5,324.4	7,983.4	6,167.3	1,106.1	77.25
44.6	183.0	5,281.0	8,161.8	6,259.1	1,131.8	76.69
44.6	187.0	5,237.2	8,340.2	6,348.2	1,157.5	76.12
44.6	191.0	5,193.1	8,518.6	6,433.9	1,183.1	75.53
44.5	195.0	5,148.5	8,677.5	6,517.2	1,208.8	75.11
44.5	199.0	5,103.4	8,855.5	6,597.0	1,234.4	74.50
44.5	203.0	5,057.8	9,033.5	6,674.1	1,260.1	73.88
44.5	207.0	5,011.6	9,211.5	6,748.1	1,285.8	73.26
44.5	211.0	4,964.7	9,389.5	6,818.0	1,311.4	72.61
44.5	215.0	4,917.1	9,567.5	6,885.0	1,337.1	71.96
44.5	219.0	4,868.7	9,745.5	6,948.2	1,362.8	71.30
44.5	223.0	4,819.5	9,923.5	7,007.2	1,388.4	70.61
44.5	227.0	4,769.3	10,101.5	7,062.6	1,414.1	69.92
44.5	231.0	4,718.2	10,279.5	7,113.9	1,439.8	69.20
44.4	235.0	4,666.1	10,434.0	7,160.4	1,465.4	68.63
44.4	239.0	4,612.9	10,611.6	7,202.9	1,491.1	67.88
44.4	243.0	4,558.6	10,789.2	7,240.8	1,516.8	67.11
44.4	247.0	4,503.1	10,966.8	7,273.4	1,542.4	66.32
44.4	251.0	4,446.4	11,144.4	7,301.5	1,568.1	65.52

nl = rpm with no load

lo = current with no load

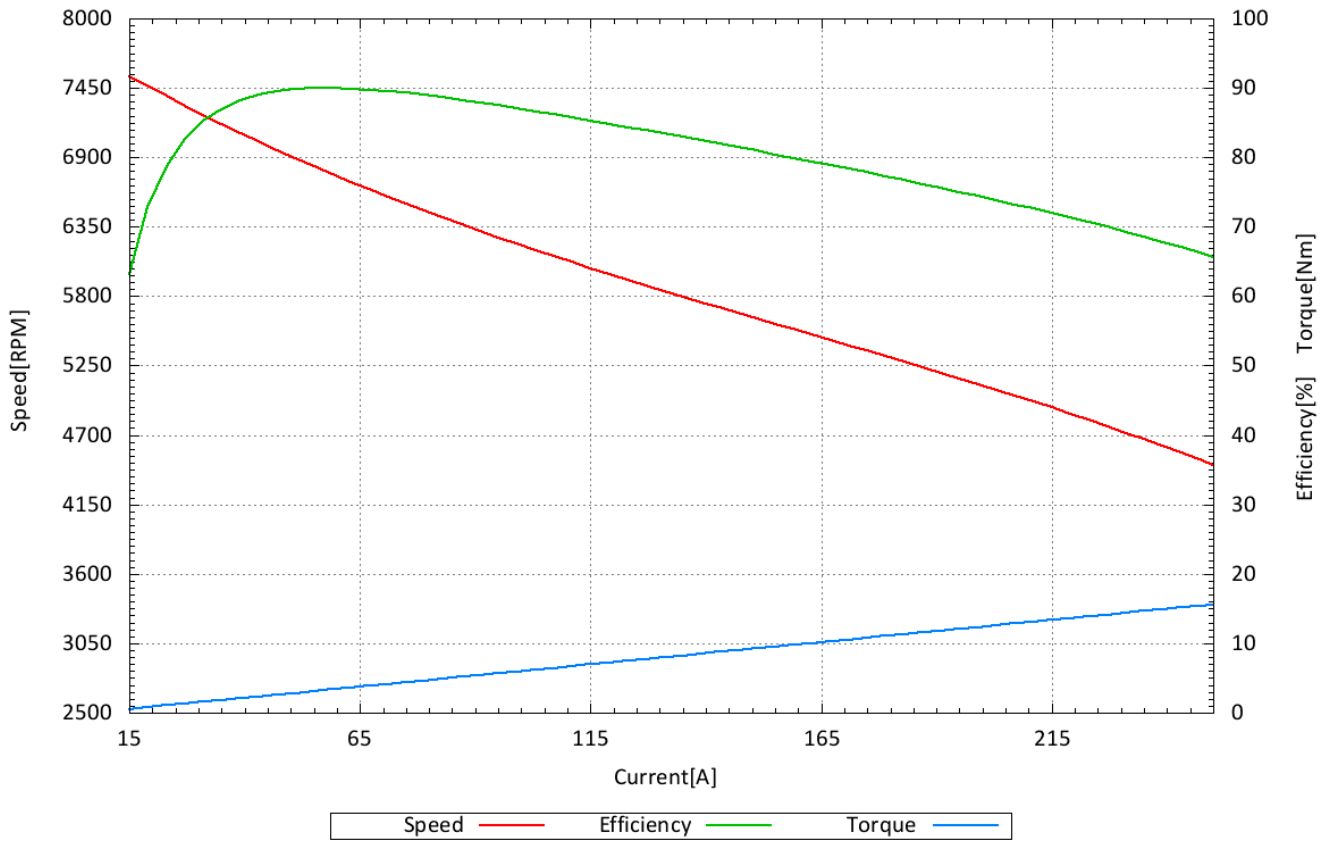
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP875_20_B6_P30_45V_MST60-290_16042024



Report calculated on Test Bench Results

Motor type: **NOVA 15-20-B6 P30**

Date: 16.04.2024

Bearing type: regular

Controller: MST 60-290

Measuring Parameter

Voltage: **50.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 8,292.5 [RPM] lo: 7.6 [A] kv: 168.0 [RPM/V] kn: -14.25 [RPM/A] kT: 6.49 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
50.0	15.0	8,438.3	750.0	425.0	48.1	56.67
50.0	19.0	8,345.4	950.0	647.6	74.1	68.17
50.0	23.0	8,255.4	1,150.0	865.4	100.1	75.25
49.9	27.0	8,168.2	1,347.3	1,077.8	126.0	79.99
49.9	31.0	8,083.5	1,546.9	1,286.7	152.0	83.18
49.9	35.0	8,001.5	1,746.5	1,491.5	178.0	85.40
49.9	39.0	7,921.8	1,946.1	1,692.3	204.0	86.96
49.9	43.0	7,844.6	2,145.7	1,889.4	230.0	88.06
49.9	47.0	7,769.6	2,345.3	2,082.1	255.9	88.78
49.9	51.0	7,696.7	2,544.9	2,272.1	281.9	89.28
49.9	55.0	7,626.0	2,744.5	2,458.9	307.9	89.59
49.9	59.0	7,557.2	2,944.1	2,642.4	333.9	89.75
49.9	63.0	7,490.2	3,143.7	2,823.0	359.9	89.80
49.9	67.0	7,425.1	3,343.3	2,999.8	385.8	89.73
49.8	71.0	7,361.6	3,535.8	3,174.6	411.8	89.78
49.8	75.0	7,299.7	3,735.0	3,346.6	437.8	89.60
49.8	79.0	7,239.3	3,934.2	3,516.1	463.8	89.37
49.8	83.0	7,180.3	4,133.4	3,682.9	489.8	89.10
49.8	87.0	7,122.6	4,332.6	3,846.5	515.7	88.78
49.8	91.0	7,066.1	4,531.8	4,008.4	541.7	88.45
49.8	95.0	7,010.6	4,731.0	4,167.8	567.7	88.09
49.8	99.0	6,956.2	4,930.2	4,324.8	593.7	87.72
49.8	103.0	6,902.7	5,129.4	4,478.8	619.6	87.32
49.8	107.0	6,850.0	5,328.6	4,631.1	645.6	86.91
49.8	111.0	6,798.0	5,527.8	4,781.0	671.6	86.49
49.8	115.0	6,746.6	5,727.0	4,928.6	697.6	86.06

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
49.7	119.0	6,695.7	5,914.3	5,073.7	723.6	85.79
49.7	123.0	6,645.3	6,113.1	5,215.7	749.5	85.32
49.7	127.0	6,595.2	6,311.9	5,356.0	775.5	84.86
49.7	131.0	6,545.3	6,510.7	5,493.7	801.5	84.38
49.7	135.0	6,495.5	6,709.5	5,628.7	827.5	83.89
49.7	139.0	6,445.8	6,908.3	5,761.1	853.5	83.39
49.7	143.0	6,396.0	7,107.1	5,890.1	879.4	82.88
49.7	147.0	6,346.1	7,305.9	6,016.9	905.4	82.36
49.7	151.0	6,295.9	7,504.7	6,140.8	931.4	81.83
49.7	155.0	6,245.3	7,703.5	6,261.5	957.4	81.28
49.7	159.0	6,194.3	7,902.3	6,379.0	983.4	80.72
49.7	163.0	6,142.8	8,101.1	6,492.5	1,009.3	80.14
49.6	167.0	6,090.6	8,283.2	6,603.2	1,035.3	79.72
49.6	171.0	6,037.7	8,481.6	6,710.2	1,061.3	79.12
49.6	175.0	5,983.9	8,680.0	6,813.4	1,087.3	78.50
49.6	179.0	5,929.2	8,878.4	6,911.9	1,113.2	77.85
49.6	183.0	5,873.5	9,076.8	7,006.9	1,139.2	77.20
49.6	187.0	5,816.6	9,275.2	7,097.4	1,165.2	76.52
49.6	191.0	5,758.6	9,473.6	7,183.4	1,191.2	75.83
49.6	195.0	5,699.2	9,672.0	7,264.5	1,217.2	75.11
49.6	199.0	5,638.3	9,870.4	7,339.8	1,243.1	74.36
49.6	203.0	5,576.0	10,068.8	7,410.5	1,269.1	73.60
49.6	207.0	5,512.1	10,267.2	7,475.7	1,295.1	72.81
49.6	211.0	5,446.4	10,465.6	7,534.8	1,321.1	72.00
49.5	215.0	5,379.0	10,642.5	7,588.0	1,347.1	71.30
49.5	219.0	5,309.7	10,840.5	7,634.3	1,373.0	70.42
49.5	223.0	5,238.3	11,038.5	7,674.3	1,399.0	69.52
49.5	227.0	5,164.9	11,236.5	7,707.4	1,425.0	68.59
49.5	231.0	5,089.3	11,434.5	7,733.1	1,451.0	67.63
49.5	235.0	5,011.4	11,632.5	7,751.2	1,477.0	66.63
49.5	239.0	4,931.1	11,830.5	7,760.7	1,502.9	65.60
49.5	243.0	4,848.3	12,028.5	7,762.4	1,528.9	64.53
49.5	247.0	4,762.9	12,226.5	7,755.4	1,554.9	63.43
49.5	251.0	4,674.9	12,424.5	7,739.4	1,580.9	62.29

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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