Test Bench Measurement

PLETTENBERG
High End Elektromotoren-Manufaktur

Motor type: **HP 1450-50 B6 P50 RS**

Date: 23.02.2022
Bearing type: RS
Controller: MST 400-200

Measuring Parameter

Voltage: **130.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 3,133.8 [RPM] Io: 6.7 [A] kV: 24.3 [RPM/V] kn: -4.96 [RPM/A] kT: 45.35 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
30.4	10.0	3,161.3	304.0	700.8	211.7	230.54
130.4	12.0	3,146.7	1,564.8	978.3	296.9	62.52
130.4	14.0	3,132.4	1,825.6	1,253.7	382.2	68.67
130.4	16.0	3,118.2	2,086.4	1,527.2	467.7	73.20
130.4	18.0	3,104.2	2,347.2	1,798.9	553.4	76.64
130.4	20.0	3,090.5	2,608.0	2,068.7	639.2	79.32
130.4	22.0	3,076.9	2,868.8	2,336.7	725.2	81.45
130.4	24.0	3,063.5	3,129.6	2,603.0	811.4	83.17
130.4	26.0	3,050.3	3,390.4	2,867.5	897.7	84.58
130.4	28.0	3,037.3	3,651.2	3,130.1	984.1	85.73
130.4	30.0	3,024.5	3,912.0	3,391.5	1,070.8	86.69
130.4	32.0	3,011.8	4,172.8	3,651.0	1,157.6	87.50
130.4	34.0	2,999.4	4,433.6	3,908.9	1,244.5	88.17
130.3	36.0	2,987.1	4,690.8	4,165.4	1,331.6	88.80
130.3	38.0	2,974.9	4,951.4	4,420.3	1,418.9	89.27
130.3	40.0	2,963.0	5,212.0	4,674.1	1,506.4	89.68
130.3	42.0	2,951.2	5,472.6	4,926.2	1,594.0	90.02
130.3	44.0	2,939.5	5,733.2	5,176.7	1,681.7	90.29
130.3	46.0	2,928.0	5,993.8	5,425.9	1,769.6	90.53
130.3	48.0	2,916.7	6,254.4	5,674.1	1,857.7	90.72
130.3	50.0	2,905.4	6,515.0	5,920.8	1,946.0	90.88
130.3	52.0	2,894.4	6,775.6	6,166.3	2,034.4	91.01
130.3	54.0	2,883.5	7,036.2	6,410.6	2,123.0	91.11
130.3	56.0	2,872.7	7,296.8	6,653.4	2,211.7	91.18
130.3	58.0	2,862.0	7,557.4	6,895.1	2,300.6	91.24
130.3	60.0	2,851.5	7,818.0	7,135.5	2,389.6	91.27

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High End Elektromotoren-Manufaktur

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
130.2	64.0	2,830.8	8,332.8	7,613.2	2,568.2	91.36
130.2	66.0	2,820.6	8,593.2	7,850.4	2,657.8	91.36
130.2	68.0	2,810.5	8,853.6	8,086.3	2,747.5	91.33
130.2	70.0	2,800.6	9,114.0	8,321.2	2,837.3	91.30
130.2	72.0	2,790.7	9,374.4	8,554.8	2,927.3	91.26
130.2	74.0	2,781.0	9,634.8	8,787.7	3,017.5	91.21
130.2	76.0	2,771.3	9,895.2	9,019.4	3,107.9	91.15
130.2	78.0	2,761.7	10,155.6	9,249.9	3,198.4	91.08
130.2	80.0	2,752.3	10,416.0	9,479.9	3,289.1	91.01
130.2	82.0	2,742.9	10,676.4	9,708.3	3,379.9	90.93
130.2	84.0	2,733.6	10,936.8	9,935.9	3,470.9	90.85
130.2	86.0	2,724.4	11,197.2	10,162.3	3,562.0	90.76
130.1	88.0	2,715.2	11,448.8	10,387.9	3,653.4	90.73
130.1	90.0	2,706.2	11,709.0	10,612.5	3,744.8	90.64
130.1	92.0	2,697.2	11,969.2	10,836.2	3,836.5	90.53
130.1	94.0	2,688.2	12,229.4	11,058.5	3,928.3	90.43
130.1	96.0	2,679.4	12,489.6	11,280.1	4,020.2	90.32
130.1	98.0	2,670.6	12,749.8	11,500.9	4,112.4	90.20
130.1	100.0	2,661.8	13,010.0	11,720.0	4,204.6	90.08
130.1	102.0	2,653.1	13,270.2	11,938.7	4,297.1	89.97
130.1	104.0	2,644.4	13,530.4	12,156.0	4,389.7	89.84
130.1	106.0	2,635.8	13,790.6	12,372.6	4,482.5	89.72
130.1	108.0	2,627.2	14,050.8	12,587.8	4,575.4	89.59
130.1	110.0	2,618.7	14,311.0	12,802.4	4,668.5	89.46
130.1	112.0	2,610.2	14,571.2	13,015.6	4,761.7	89.32
130.0	114.0	2,601.7	14,820.0	13,228.0	4,855.2	89.26
130.0	116.0	2,593.2	15,080.0	13,438.7	4,948.7	89.12
130.0	118.0	2,584.8	15,340.0	13,649.0	5,042.5	88.98
130.0	120.0	2,576.4	15,600.0	13,858.0	5,136.4	88.83
130.0	122.0	2,567.9	15,860.0	14,065.1	5,230.4	88.68
130.0	124.0	2,559.5	16,120.0	14,271.8	5,324.7	88.53
130.0	126.0	2,551.2	16,380.0	14,477.5	5,419.0	88.38
130.0	128.0	2,542.8	16,640.0	14,681.7	5,513.6	88.23
130.0	130.0	2,534.4	16,900.0	14,884.5	5,608.3	88.07
130.0	132.0	2,526.0	17,160.0	15,086.2	5,703.2	87.92
130.0	134.0	2,517.6	17,420.0	15,286.5	5,798.2	87.75
130.0	136.0	2,509.2	17,680.0	15,485.7	5,893.4	87.59
130.0	138.0	2,500.8	17,940.0	15,683.4	5,988.7	87.42
129.9	140.0	2,492.3	18,186.0	15,879.6	6,084.3	87.32

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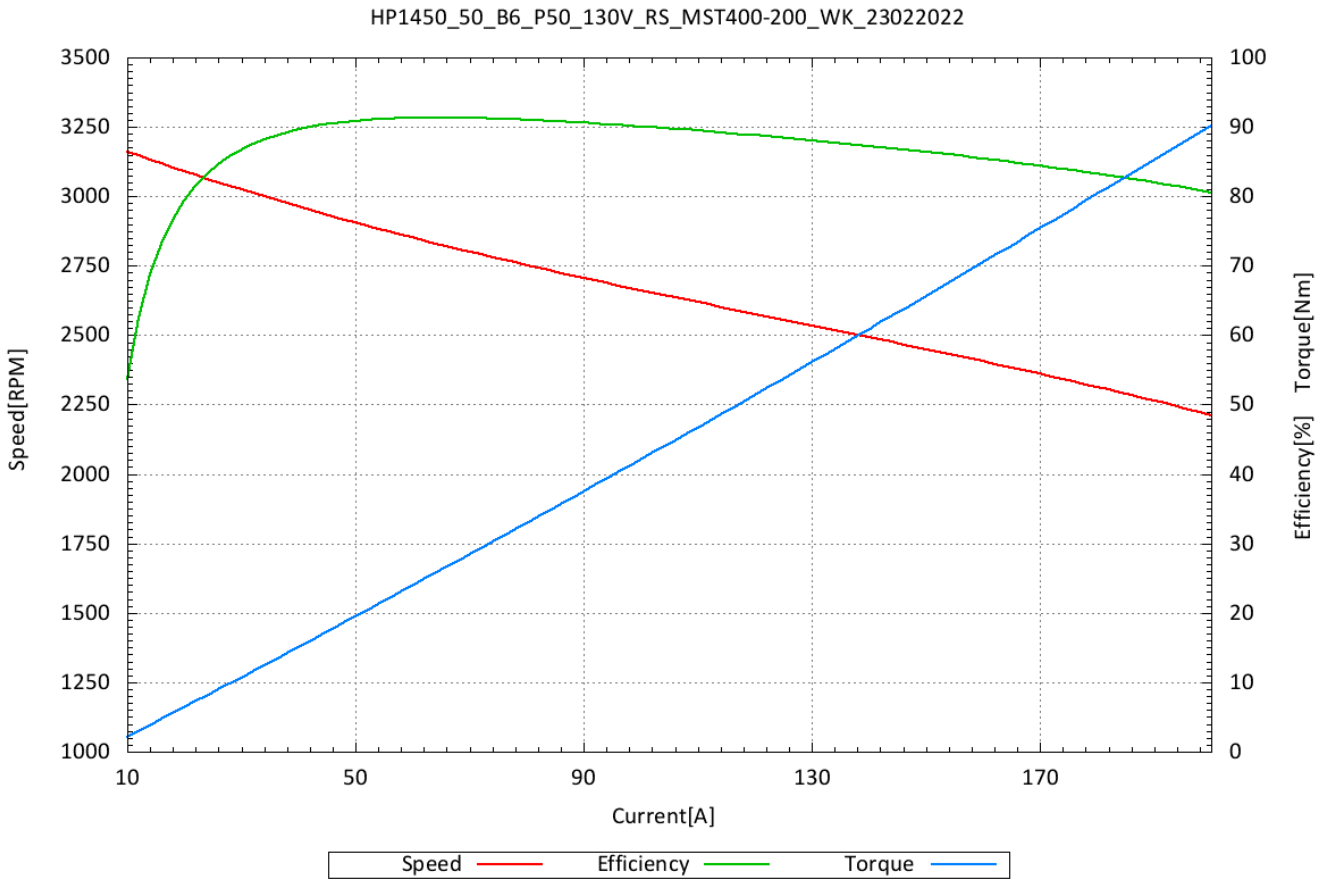
High End Elektromotoren-Manufaktur

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
129.9	144.0	2,475.3	18,705.6	16,267.7	6,275.8	86.97
129.9	146.0	2,466.8	18,965.4	16,459.8	6,371.8	86.79
129.9	148.0	2,458.3	19,225.2	16,650.5	6,467.9	86.61
129.9	150.0	2,449.7	19,485.0	16,839.5	6,564.3	86.42
129.9	152.0	2,441.0	19,744.8	17,026.1	6,660.7	86.23
129.9	154.0	2,432.4	20,004.6	17,212.5	6,757.4	86.04
129.9	156.0	2,423.6	20,264.4	17,395.9	6,854.2	85.84
129.9	158.0	2,414.9	20,524.2	17,578.7	6,951.2	85.65
129.9	160.0	2,406.0	20,784.0	17,758.6	7,048.3	85.44
129.9	162.0	2,397.1	21,043.8	17,937.2	7,145.6	85.24
129.9	164.0	2,388.2	21,303.6	18,114.1	7,243.0	85.03
129.9	166.0	2,379.2	21,563.4	18,289.3	7,340.7	84.82
129.8	168.0	2,370.1	21,806.4	18,461.8	7,438.4	84.66
129.8	170.0	2,360.9	22,066.0	18,632.5	7,536.4	84.44
129.8	172.0	2,351.7	22,325.6	18,801.4	7,634.5	84.21
129.8	174.0	2,342.3	22,585.2	18,967.2	7,732.7	83.98
129.8	176.0	2,332.9	22,844.8	19,131.7	7,831.2	83.75
129.8	178.0	2,323.4	23,104.4	19,293.4	7,929.7	83.51
129.8	180.0	2,313.9	23,364.0	19,453.9	8,028.5	83.26
129.8	182.0	2,304.2	23,623.6	19,611.0	8,127.4	83.01
129.8	184.0	2,294.4	23,883.2	19,765.7	8,226.5	82.76
129.8	186.0	2,284.5	24,142.8	19,917.8	8,325.7	82.50
129.8	188.0	2,274.5	24,402.4	20,067.3	8,425.1	82.24
129.8	190.0	2,264.4	24,662.0	20,214.2	8,524.6	81.96
129.8	192.0	2,254.2	24,921.6	20,358.5	8,624.3	81.69
129.7	194.0	2,243.9	25,161.8	20,500.2	8,724.2	81.47
129.7	196.0	2,233.4	25,421.2	20,638.4	8,824.3	81.19
129.7	198.0	2,222.9	25,680.6	20,774.6	8,924.5	80.90
129.7	200.0	2,212.1	25,940.0	20,906.0	9,024.8	80.59

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller


HP1450_50_B6_P50_130V_RS_MST400-200_WK_23022022
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
3500
3250
3000
2750
2500
2250
2000
1750
1500
1250
1000
100
90
80
70
60
50
40
30
20
10
0
10
50
90
130
170
Speed
Efficiency
Torque

Test Bench Measurement

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High End Elektromotoren-Manufaktur

Motor type: **HP 1450-50 B6 P50 RS**

Date: 23.02.2022
Bearing type: RS
Controller: MST 400-200

Measuring Parameter

Voltage: **140.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 3,387.7 [RPM] Io: 6.6 [A] kV: 24.3 [RPM/V] kn: -5.31 [RPM/A] kT: 45.15 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
40.6	10.0	3,418.4	406.0	762.8	213.1	187.89
140.6	12.0	3,402.6	1,687.2	1,062.5	298.2	62.98
140.6	14.0	3,387.0	1,968.4	1,360.2	383.5	69.10
140.6	16.0	3,371.6	2,249.6	1,655.9	469.0	73.61
140.5	18.0	3,356.5	2,529.0	1,949.4	554.6	77.08
140.5	20.0	3,341.6	2,810.0	2,240.6	640.3	79.74
140.5	22.0	3,326.9	3,091.0	2,530.0	726.2	81.85
140.5	24.0	3,312.4	3,372.0	2,817.3	812.2	83.55
140.5	26.0	3,298.1	3,653.0	3,102.9	898.4	84.94
140.5	28.0	3,284.1	3,934.0	3,386.8	984.8	86.09
140.5	30.0	3,270.2	4,215.0	3,668.4	1,071.2	87.03
140.5	32.0	3,256.5	4,496.0	3,948.7	1,157.9	87.83
140.5	34.0	3,243.0	4,777.0	4,227.1	1,244.7	88.49
140.5	36.0	3,229.7	5,058.0	4,503.6	1,331.6	89.04
140.5	38.0	3,216.6	5,339.0	4,778.8	1,418.7	89.51
140.5	40.0	3,203.7	5,620.0	5,052.5	1,506.0	89.90
140.4	42.0	3,191.0	5,896.8	5,324.5	1,593.4	90.30
140.4	44.0	3,178.4	6,177.6	5,594.7	1,680.9	90.56
140.4	46.0	3,166.0	6,458.4	5,863.7	1,768.6	90.79
140.4	48.0	3,153.7	6,739.2	6,131.2	1,856.5	90.98
140.4	50.0	3,141.7	7,020.0	6,397.4	1,944.5	91.13
140.4	52.0	3,129.7	7,300.8	6,661.7	2,032.6	91.25
140.4	54.0	3,118.0	7,581.6	6,925.1	2,120.9	91.34
140.4	56.0	3,106.3	7,862.4	7,187.0	2,209.4	91.41
140.4	58.0	3,094.9	8,143.2	7,447.8	2,298.0	91.46
140.4	60.0	3,083.5	8,424.0	7,706.7	2,386.7	91.49

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High End Elektromotoren-Manufaktur

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
140.4	64.0	3,061.3	8,985.6	8,221.9	2,564.7	91.50
140.4	66.0	3,050.3	9,266.4	8,477.3	2,653.9	91.48
140.3	68.0	3,039.5	9,540.4	8,731.8	2,743.3	91.52
140.3	70.0	3,028.8	9,821.0	8,984.9	2,832.8	91.49
140.3	72.0	3,018.2	10,101.6	9,236.7	2,922.4	91.44
140.3	74.0	3,007.8	10,382.2	9,487.7	3,012.2	91.38
140.3	76.0	2,997.4	10,662.8	9,737.4	3,102.2	91.32
140.3	78.0	2,987.2	10,943.4	9,986.1	3,192.3	91.25
140.3	80.0	2,977.0	11,224.0	10,233.5	3,282.6	91.18
140.3	82.0	2,967.0	11,504.6	10,480.0	3,373.0	91.09
140.3	84.0	2,957.1	11,785.2	10,725.6	3,463.6	91.01
140.3	86.0	2,947.2	12,065.8	10,969.6	3,554.3	90.92
140.3	88.0	2,937.4	12,346.4	11,212.8	3,645.2	90.82
140.3	90.0	2,927.7	12,627.0	11,454.7	3,736.2	90.72
140.2	92.0	2,918.1	12,898.4	11,695.6	3,827.3	90.67
140.2	94.0	2,908.5	13,178.8	11,935.5	3,918.7	90.57
140.2	96.0	2,899.1	13,459.2	12,174.4	4,010.1	90.45
140.2	98.0	2,889.7	13,739.6	12,412.4	4,101.8	90.34
140.2	100.0	2,880.3	14,020.0	12,648.6	4,193.5	90.22
140.2	102.0	2,871.0	14,300.4	12,884.1	4,285.4	90.10
140.2	104.0	2,861.8	14,580.8	13,118.8	4,377.5	89.97
140.2	106.0	2,852.6	14,861.2	13,352.0	4,469.7	89.85
140.2	108.0	2,843.5	15,141.6	13,584.6	4,562.1	89.72
140.2	110.0	2,834.4	15,422.0	13,815.7	4,654.6	89.58
140.2	112.0	2,825.3	15,702.4	14,045.6	4,747.3	89.45
140.2	114.0	2,816.3	15,982.8	14,274.8	4,840.2	89.31
140.2	116.0	2,807.3	16,263.2	14,502.3	4,933.1	89.17
140.1	118.0	2,798.3	16,531.8	14,728.9	5,026.3	89.09
140.1	120.0	2,789.4	16,812.0	14,954.3	5,119.5	88.95
140.1	122.0	2,780.4	17,092.2	15,178.3	5,213.0	88.80
140.1	124.0	2,771.5	17,372.4	15,401.4	5,306.6	88.65
140.1	126.0	2,762.6	17,652.6	15,623.0	5,400.3	88.50
140.1	128.0	2,753.7	17,932.8	15,843.4	5,494.2	88.35
140.1	130.0	2,744.8	18,213.0	16,062.4	5,588.2	88.19
140.1	132.0	2,735.9	18,493.2	16,280.2	5,682.4	88.03
140.1	134.0	2,727.0	18,773.4	16,496.6	5,776.7	87.87
140.1	136.0	2,718.1	19,053.6	16,711.7	5,871.2	87.71
140.1	138.0	2,709.1	19,333.8	16,925.0	5,965.9	87.54
140.1	140.0	2,700.2	19,614.0	17,137.5	6,060.7	87.37

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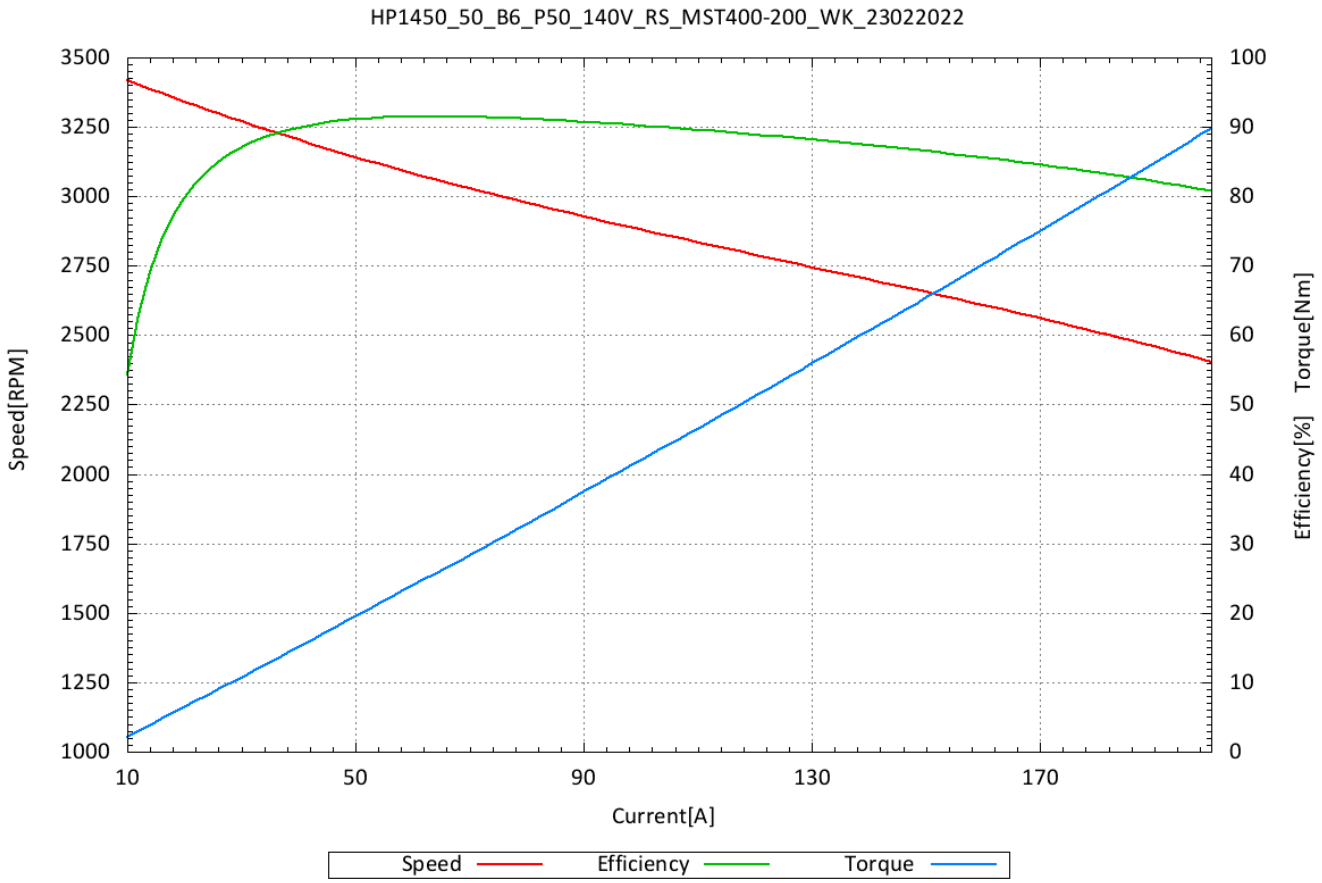
High End Elektromotoren-Manufaktur

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
140.0	144.0	2,682.2	20,160.0	17,556.9	6,250.7	87.09
140.0	146.0	2,673.2	20,440.0	17,764.5	6,345.9	86.91
140.0	148.0	2,664.1	20,720.0	17,970.2	6,441.3	86.73
140.0	150.0	2,655.1	21,000.0	18,175.3	6,536.9	86.55
140.0	152.0	2,645.9	21,280.0	18,377.5	6,632.6	86.36
140.0	154.0	2,636.7	21,560.0	18,578.1	6,728.4	86.17
140.0	156.0	2,627.5	21,840.0	18,777.4	6,824.4	85.98
140.0	158.0	2,618.2	22,120.0	18,974.4	6,920.5	85.78
140.0	160.0	2,608.9	22,400.0	19,170.1	7,016.8	85.58
140.0	162.0	2,599.5	22,680.0	19,363.8	7,113.3	85.38
140.0	164.0	2,590.0	22,960.0	19,555.0	7,209.9	85.17
140.0	166.0	2,580.5	23,240.0	19,744.6	7,306.6	84.96
139.9	168.0	2,570.8	23,503.2	19,931.2	7,403.5	84.80
139.9	170.0	2,561.2	23,783.0	20,117.2	7,500.6	84.59
139.9	172.0	2,551.4	24,062.8	20,300.0	7,597.8	84.36
139.9	174.0	2,541.5	24,342.6	20,480.4	7,695.2	84.13
139.9	176.0	2,531.6	24,622.4	20,659.1	7,792.7	83.90
139.9	178.0	2,521.5	24,902.2	20,834.4	7,890.3	83.66
139.9	180.0	2,511.4	25,182.0	21,008.2	7,988.1	83.43
139.9	182.0	2,501.2	25,461.8	21,179.5	8,086.1	83.18
139.9	184.0	2,490.8	25,741.6	21,347.3	8,184.2	82.93
139.9	186.0	2,480.4	26,021.4	21,513.3	8,282.4	82.68
139.9	188.0	2,469.8	26,301.2	21,676.1	8,380.9	82.41
139.9	190.0	2,459.1	26,581.0	21,835.8	8,479.4	82.15
139.9	192.0	2,448.3	26,860.8	21,993.0	8,578.1	81.88
139.8	194.0	2,437.4	27,121.2	22,147.5	8,677.0	81.66
139.8	196.0	2,426.4	27,400.8	22,299.1	8,776.0	81.38
139.8	198.0	2,415.2	27,680.4	22,447.1	8,875.2	81.09
139.8	200.0	2,403.8	27,960.0	22,591.1	8,974.5	80.80

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller


HP1450_50_B6_P50_140V_RS_MST400-200_WK_23022022
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
3500
3250
3000
2750
2500
2250
2000
1750
1500
1250
1000
100
90
80
70
60
50
40
30
20
10
0
10
50
90
130
170
Speed
Efficiency
Torque

Test Bench Measurement

PLETTENBERG
High End Elektromotoren-Manufaktur

Motor type: **HP 1450-50 B6 P50 RS**

Date: 23.02.2022

Bearing type: RS

Controller: MST 400-200

Measuring Parameter

Voltage: **150.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 3,620.2 [RPM] Io: 6.3 [A] kV: 24.3 [RPM/V] kn: -5.59 [RPM/A] kT: 45.15 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
50.6	10.0	3,645.0	506.0	887.1	232.4	175.31
150.5	12.0	3,628.7	1,806.0	1,202.3	316.4	66.57
150.5	14.0	3,612.6	2,107.0	1,515.9	400.7	71.95
150.5	16.0	3,596.7	2,408.0	1,827.5	485.2	75.89
150.5	18.0	3,581.1	2,709.0	2,137.2	569.9	78.89
150.5	20.0	3,565.7	3,010.0	2,444.6	654.7	81.22
150.5	22.0	3,550.6	3,311.0	2,750.7	739.8	83.08
150.5	24.0	3,535.6	3,612.0	3,054.5	825.0	84.57
150.5	26.0	3,520.9	3,913.0	3,357.1	910.5	85.79
150.5	28.0	3,506.4	4,214.0	3,657.6	996.1	86.80
150.5	30.0	3,492.1	4,515.0	3,956.8	1,082.0	87.64
150.5	32.0	3,478.0	4,816.0	4,254.0	1,168.0	88.33
150.5	34.0	3,464.1	5,117.0	4,550.1	1,254.3	88.92
150.5	36.0	3,450.3	5,418.0	4,844.1	1,340.7	89.41
150.4	38.0	3,436.8	5,715.2	5,136.9	1,427.3	89.88
150.4	40.0	3,423.5	6,016.0	5,428.5	1,514.2	90.23
150.4	42.0	3,410.3	6,316.8	5,718.3	1,601.2	90.53
150.4	44.0	3,397.3	6,617.6	6,006.7	1,688.4	90.77
150.4	46.0	3,384.5	6,918.4	6,293.9	1,775.8	90.97
150.4	48.0	3,371.9	7,219.2	6,580.1	1,863.5	91.15
150.4	50.0	3,359.4	7,520.0	6,864.6	1,951.3	91.28
150.4	52.0	3,347.1	7,820.8	7,147.9	2,039.3	91.40
150.4	54.0	3,334.9	8,121.6	7,429.9	2,127.5	91.48
150.4	56.0	3,322.9	8,422.4	7,710.7	2,215.9	91.55
150.4	58.0	3,311.1	8,723.2	7,990.6	2,304.5	91.60
150.4	60.0	3,299.4	9,024.0	8,269.1	2,393.3	91.64

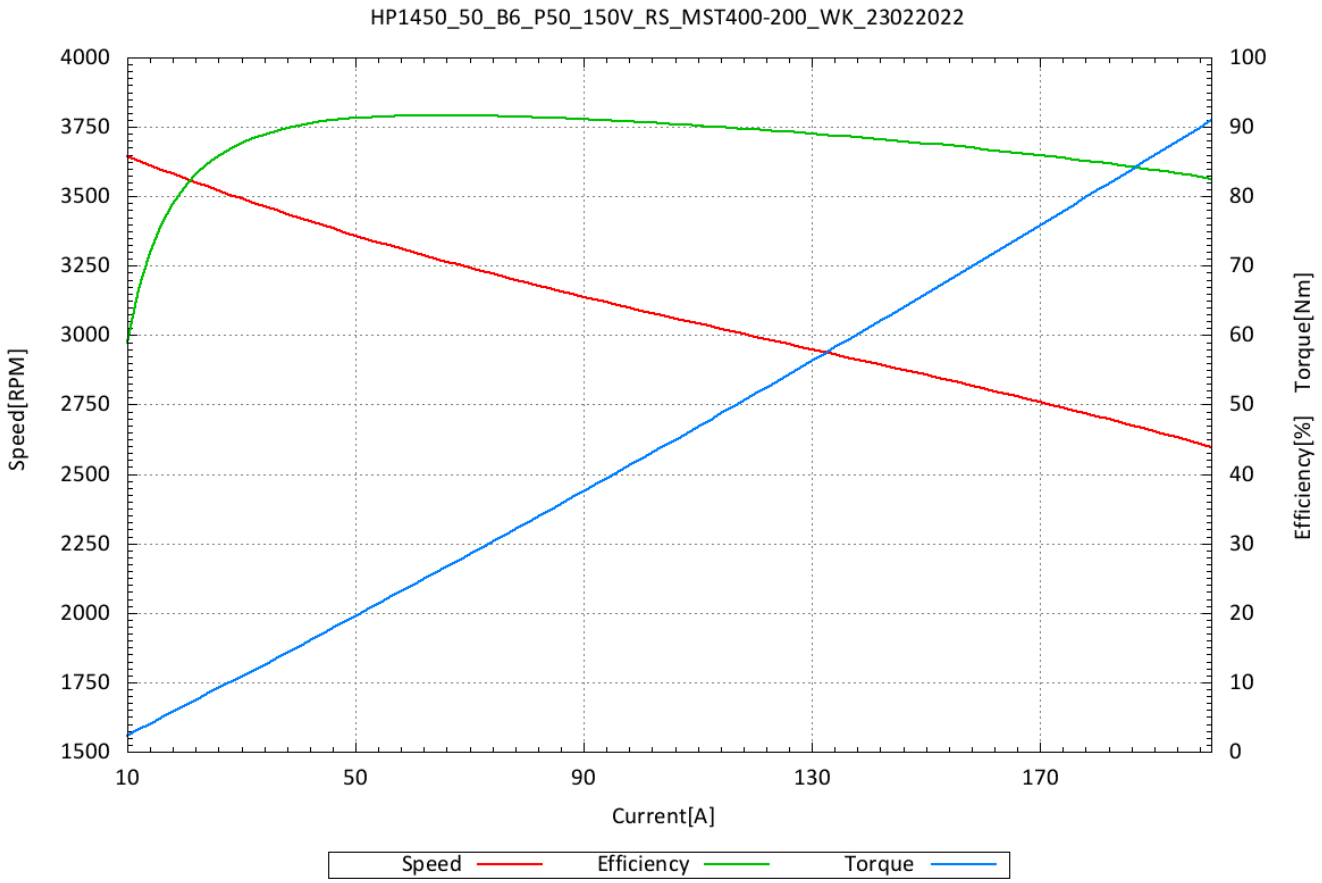
PLETTENBERG
High End Elektromotoren-Manufaktur

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
150.3	64.0	3,276.4	9,619.2	8,822.9	2,571.5	91.72
150.3	66.0	3,265.1	9,919.8	9,098.2	2,660.9	91.72
150.3	68.0	3,253.9	10,220.4	9,371.9	2,750.4	91.70
150.3	70.0	3,242.8	10,521.0	9,644.9	2,840.2	91.67
150.3	72.0	3,231.9	10,821.6	9,917.1	2,930.2	91.64
150.3	74.0	3,221.1	11,122.2	10,188.2	3,020.4	91.60
150.3	76.0	3,210.4	11,422.8	10,457.9	3,110.7	91.55
150.3	78.0	3,199.8	11,723.4	10,727.0	3,201.3	91.50
150.3	80.0	3,189.3	12,024.0	10,995.0	3,292.1	91.44
150.3	82.0	3,179.0	12,324.6	11,262.1	3,383.0	91.38
150.3	84.0	3,168.7	12,625.2	11,528.3	3,474.2	91.31
150.3	86.0	3,158.5	12,925.8	11,793.2	3,565.5	91.24
150.3	88.0	3,148.4	13,226.4	12,057.4	3,657.1	91.16
150.3	90.0	3,138.3	13,527.0	12,320.1	3,748.8	91.08
150.2	92.0	3,128.4	13,818.4	12,582.7	3,840.8	91.06
150.2	94.0	3,118.5	14,118.8	12,843.6	3,932.9	90.97
150.2	96.0	3,108.7	14,419.2	13,103.7	4,025.2	90.88
150.2	98.0	3,099.0	14,719.6	13,363.4	4,117.8	90.79
150.2	100.0	3,089.3	15,020.0	13,621.4	4,210.5	90.69
150.2	102.0	3,079.7	15,320.4	13,878.7	4,303.4	90.59
150.2	104.0	3,070.2	15,620.8	14,135.2	4,396.5	90.49
150.2	106.0	3,060.7	15,921.2	14,390.8	4,489.9	90.39
150.2	108.0	3,051.2	16,221.6	14,644.9	4,583.4	90.28
150.2	110.0	3,041.8	16,522.0	14,898.3	4,677.1	90.17
150.2	112.0	3,032.5	16,822.4	15,150.9	4,771.0	90.06
150.2	114.0	3,023.1	17,122.8	15,401.9	4,865.1	89.95
150.2	116.0	3,013.8	17,423.2	15,652.1	4,959.4	89.83
150.1	118.0	3,004.5	17,711.8	15,901.1	5,053.9	89.78
150.1	120.0	2,995.3	18,012.0	16,149.5	5,148.6	89.66
150.1	122.0	2,986.1	18,312.2	16,396.6	5,243.5	89.54
150.1	124.0	2,976.8	18,612.4	16,642.0	5,338.6	89.41
150.1	126.0	2,967.6	18,912.6	16,886.4	5,433.8	89.29
150.1	128.0	2,958.4	19,212.8	17,129.9	5,529.3	89.16
150.1	130.0	2,949.2	19,513.0	17,372.2	5,625.0	89.03
150.1	132.0	2,940.0	19,813.2	17,613.3	5,720.9	88.90
150.1	134.0	2,930.8	20,113.4	17,852.8	5,816.9	88.76
150.1	136.0	2,921.6	20,413.6	18,091.4	5,913.2	88.62
150.1	138.0	2,912.4	20,713.8	18,328.7	6,009.7	88.49
150.1	140.0	2,903.1	21,014.0	18,563.9	6,106.3	88.34

PLETTENBERG
High End Elektromotoren-Manufaktur

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
150.0	144.0	2,884.5	21,600.0	19,030.6	6,300.2	88.10
150.0	146.0	2,875.2	21,900.0	19,262.2	6,397.5	87.96
150.0	148.0	2,865.9	22,200.0	19,492.3	6,494.9	87.80
150.0	150.0	2,856.5	22,500.0	19,720.6	6,592.6	87.65
150.0	152.0	2,847.0	22,800.0	19,946.6	6,690.4	87.48
150.0	154.0	2,837.5	23,100.0	20,171.5	6,788.5	87.32
150.0	156.0	2,828.0	23,400.0	20,394.8	6,886.7	87.16
150.0	158.0	2,818.4	23,700.0	20,616.0	6,985.1	86.99
150.0	160.0	2,808.7	24,000.0	20,835.0	7,083.7	86.81
150.0	162.0	2,799.0	24,300.0	21,053.0	7,182.6	86.64
150.0	164.0	2,789.2	24,600.0	21,268.4	7,281.6	86.46
150.0	166.0	2,779.4	24,900.0	21,482.4	7,380.8	86.27
150.0	168.0	2,769.5	25,200.0	21,694.2	7,480.2	86.09
149.9	170.0	2,759.5	25,483.0	21,903.7	7,579.8	85.95
149.9	172.0	2,749.4	25,782.8	22,110.8	7,679.6	85.76
149.9	174.0	2,739.2	26,082.6	22,315.7	7,779.6	85.56
149.9	176.0	2,728.9	26,382.4	22,518.1	7,879.8	85.35
149.9	178.0	2,718.6	26,682.2	22,718.9	7,980.2	85.15
149.9	180.0	2,708.1	26,982.0	22,916.5	8,080.8	84.93
149.9	182.0	2,697.5	27,281.8	23,111.5	8,181.6	84.71
149.9	184.0	2,686.9	27,581.6	23,304.9	8,282.6	84.49
149.9	186.0	2,676.1	27,881.4	23,494.8	8,383.8	84.27
149.9	188.0	2,665.2	28,181.2	23,681.8	8,485.1	84.03
149.9	190.0	2,654.2	28,481.0	23,866.5	8,586.7	83.80
149.9	192.0	2,643.0	28,780.8	24,047.5	8,688.5	83.55
149.9	194.0	2,631.7	29,080.6	24,225.5	8,790.4	83.30
149.9	196.0	2,620.3	29,380.4	24,401.0	8,892.6	83.05
149.8	198.0	2,608.8	29,660.4	24,573.7	8,995.0	82.85
149.8	200.0	2,597.1	29,960.0	24,742.3	9,097.5	82.58

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller


HP1450_50_B6_P50_150V_RS_MST400-200_WK_23022022
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
4000
3750
3500
3250
3000
2750
2500
2250
2000
1750
1500
100
90
80
70
60
50
40
30
20
10
0
10
50
90
130
170
Speed
Efficiency
Torque

Test Bench Measurement

PLETTENBERG
High End Elektromotoren-Manufaktur

Motor type: **HP 1450-50 B6 P50 RS**

Date: 23.02.2022
Bearing type: RS
Controller: MST 400-200

Measuring Parameter

Voltage: **160.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 3,852.9 [RPM] Io: 6.0 [A] kV: 24.2 [RPM/V] kn: -5.81 [RPM/A] kT: 44.66 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
60.6	10.0	3,877.1	606.0	1,043.4	257.0	172.19
160.6	12.0	3,860.2	1,927.2	1,370.4	339.0	71.11
160.6	14.0	3,843.5	2,248.4	1,695.3	421.2	75.40
160.6	16.0	3,827.0	2,569.6	2,018.2	503.6	78.54
160.6	18.0	3,810.8	2,890.8	2,339.7	586.3	80.94
160.5	20.0	3,794.9	3,210.0	2,659.4	669.2	82.85
160.5	22.0	3,779.1	3,531.0	2,977.2	752.3	84.32
160.5	24.0	3,763.6	3,852.0	3,293.3	835.6	85.50
160.5	26.0	3,748.3	4,173.0	3,608.1	919.2	86.46
160.5	28.0	3,733.2	4,494.0	3,921.5	1,003.1	87.26
160.5	30.0	3,718.4	4,815.0	4,233.1	1,087.1	87.91
160.5	32.0	3,703.7	5,136.0	4,543.3	1,171.4	88.46
160.5	34.0	3,689.3	5,457.0	4,852.1	1,255.9	88.91
160.5	36.0	3,675.0	5,778.0	5,159.6	1,340.7	89.30
160.5	38.0	3,660.9	6,099.0	5,465.3	1,425.6	89.61
160.5	40.0	3,647.1	6,420.0	5,770.1	1,510.8	89.88
160.5	42.0	3,633.4	6,741.0	6,073.7	1,596.3	90.10
160.5	44.0	3,619.9	7,062.0	6,375.7	1,681.9	90.28
160.4	46.0	3,606.6	7,378.4	6,676.7	1,767.8	90.49
160.4	48.0	3,593.5	7,699.2	6,976.8	1,854.0	90.62
160.4	50.0	3,580.5	8,020.0	7,275.1	1,940.3	90.71
160.4	52.0	3,567.7	8,340.8	7,572.7	2,026.9	90.79
160.4	54.0	3,555.0	8,661.6	7,869.2	2,113.8	90.85
160.4	56.0	3,542.6	8,982.4	8,164.5	2,200.8	90.89
160.4	58.0	3,530.2	9,303.2	8,458.7	2,288.1	90.92
160.4	60.0	3,518.1	9,624.0	8,752.1	2,375.6	90.94

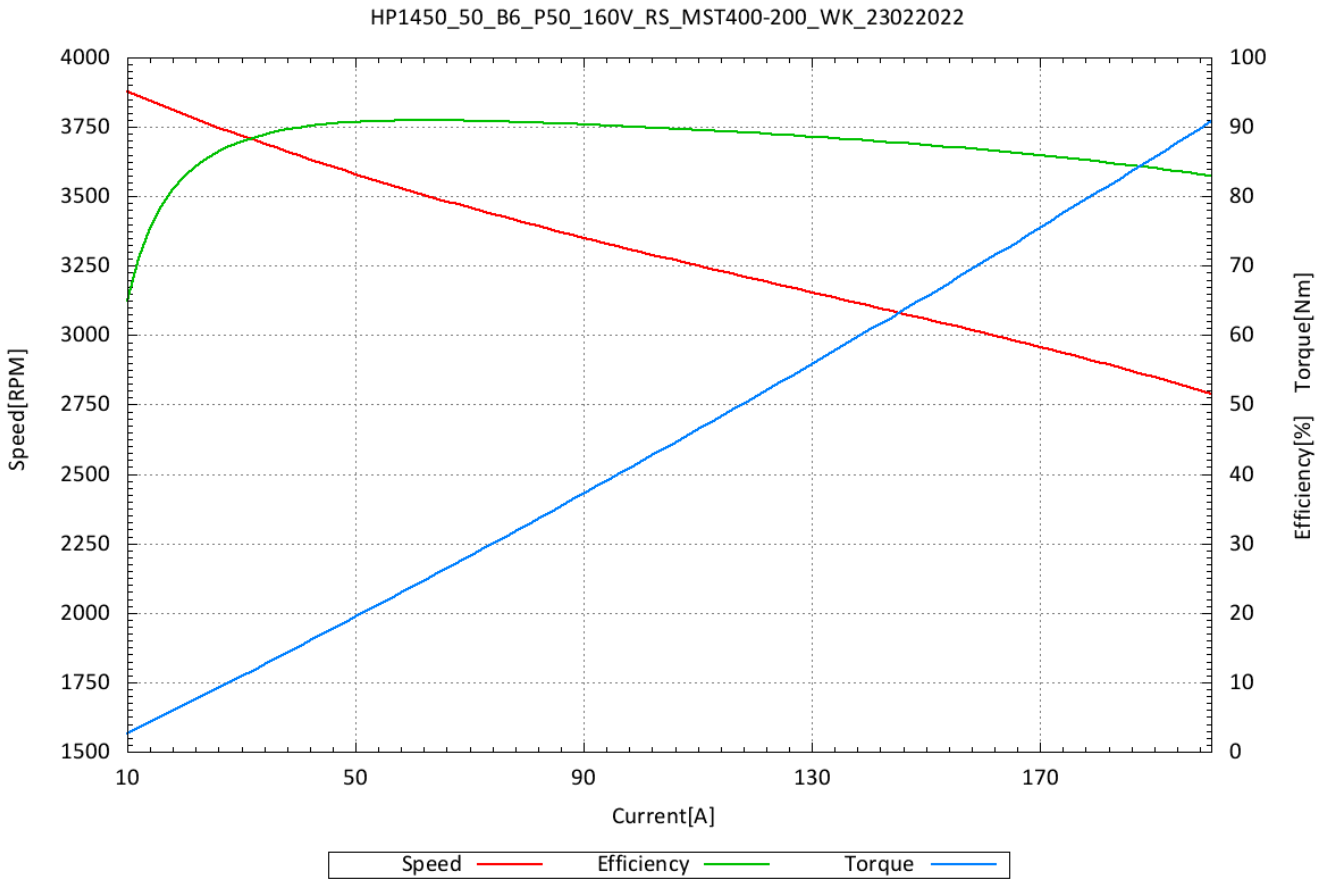
PLETTENBERG
High End Elektromotoren-Manufaktur

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
160.4	64.0	3,494.1	10,265.6	9,335.2	2,551.3	90.94
160.4	66.0	3,482.4	10,586.4	9,626.0	2,639.6	90.93
160.4	68.0	3,470.8	10,907.2	9,915.2	2,728.0	90.91
160.4	70.0	3,459.3	11,228.0	10,203.7	2,816.7	90.88
160.4	72.0	3,447.9	11,548.8	10,491.1	2,905.6	90.84
160.3	74.0	3,436.7	11,862.2	10,777.6	2,994.7	90.86
160.3	76.0	3,425.6	12,182.8	11,063.5	3,084.1	90.81
160.3	78.0	3,414.5	12,503.4	11,348.1	3,173.7	90.76
160.3	80.0	3,403.6	12,824.0	11,631.9	3,263.5	90.70
160.3	82.0	3,392.8	13,144.6	11,915.1	3,353.6	90.65
160.3	84.0	3,382.1	13,465.2	12,197.0	3,443.8	90.58
160.3	86.0	3,371.5	13,785.8	12,478.6	3,534.4	90.52
160.3	88.0	3,361.0	14,106.4	12,759.0	3,625.1	90.45
160.3	90.0	3,350.6	14,427.0	13,038.8	3,716.1	90.38
160.3	92.0	3,340.3	14,747.6	13,317.8	3,807.3	90.30
160.3	94.0	3,330.0	15,068.2	13,595.8	3,898.8	90.23
160.3	96.0	3,319.8	15,388.8	13,872.6	3,990.4	90.15
160.3	98.0	3,309.7	15,709.4	14,149.2	4,082.4	90.07
160.2	100.0	3,299.6	16,020.0	14,424.3	4,174.5	90.04
160.2	102.0	3,289.7	16,340.4	14,699.3	4,266.9	89.96
160.2	104.0	3,279.7	16,660.8	14,972.7	4,359.5	89.87
160.2	106.0	3,269.9	16,981.2	15,245.7	4,452.3	89.78
160.2	108.0	3,260.0	17,301.6	15,517.4	4,545.4	89.69
160.2	110.0	3,250.3	17,622.0	15,788.8	4,638.7	89.60
160.2	112.0	3,240.5	17,942.4	16,058.5	4,732.2	89.50
160.2	114.0	3,230.8	18,262.8	16,327.4	4,825.9	89.40
160.2	116.0	3,221.2	18,583.2	16,596.0	4,919.9	89.31
160.2	118.0	3,211.5	18,903.6	16,862.8	5,014.1	89.20
160.2	120.0	3,201.9	19,224.0	17,129.2	5,108.6	89.10
160.2	122.0	3,192.3	19,544.4	17,394.5	5,203.3	89.00
160.2	124.0	3,182.7	19,864.8	17,658.5	5,298.2	88.89
160.2	126.0	3,173.2	20,185.2	17,921.8	5,393.3	88.79
160.1	128.0	3,163.6	20,492.8	18,183.6	5,488.7	88.73
160.1	130.0	3,154.1	20,813.0	18,444.8	5,584.3	88.62
160.1	132.0	3,144.5	21,133.2	18,704.1	5,680.1	88.51
160.1	134.0	3,135.0	21,453.4	18,963.1	5,776.2	88.39
160.1	136.0	3,125.4	21,773.6	19,220.2	5,872.5	88.27
160.1	138.0	3,115.8	22,093.8	19,476.0	5,969.0	88.15
160.1	140.0	3,106.2	22,414.0	19,730.9	6,065.8	88.03

PLETTENBERG
High End Elektromotoren-Manufaktur

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
160.1	144.0	3,087.0	23,054.4	20,236.7	6,260.0	87.78
160.1	146.0	3,077.3	23,374.6	20,487.3	6,357.5	87.65
160.1	148.0	3,067.6	23,694.8	20,736.6	6,455.2	87.52
160.1	150.0	3,057.9	24,015.0	20,984.5	6,553.1	87.38
160.1	152.0	3,048.1	24,335.2	21,230.4	6,651.2	87.24
160.0	154.0	3,038.3	24,640.0	21,475.2	6,749.6	87.16
160.0	156.0	3,028.4	24,960.0	21,717.9	6,848.2	87.01
160.0	158.0	3,018.5	25,280.0	21,959.2	6,947.0	86.86
160.0	160.0	3,008.5	25,600.0	22,198.7	7,046.1	86.71
160.0	162.0	2,998.4	25,920.0	22,436.0	7,145.4	86.56
160.0	164.0	2,988.3	26,240.0	22,672.1	7,245.0	86.40
160.0	166.0	2,978.1	26,560.0	22,905.6	7,344.7	86.24
160.0	168.0	2,967.9	26,880.0	23,138.0	7,444.7	86.08
160.0	170.0	2,957.5	27,200.0	23,367.2	7,544.9	85.91
160.0	172.0	2,947.1	27,520.0	23,595.2	7,645.4	85.74
160.0	174.0	2,936.6	27,840.0	23,820.8	7,746.1	85.56
160.0	176.0	2,926.0	28,160.0	24,044.0	7,847.0	85.38
160.0	178.0	2,915.3	28,480.0	24,265.0	7,948.2	85.20
159.9	180.0	2,904.5	28,782.0	24,483.2	8,049.5	85.06
159.9	182.0	2,893.6	29,101.8	24,699.5	8,151.2	84.87
159.9	184.0	2,882.5	29,421.6	24,912.1	8,253.0	84.67
159.9	186.0	2,871.4	29,741.4	25,123.1	8,355.1	84.47
159.9	188.0	2,860.2	30,061.2	25,331.6	8,457.4	84.27
159.9	190.0	2,848.8	30,381.0	25,536.4	8,559.9	84.05
159.9	192.0	2,837.3	30,700.8	25,738.7	8,662.7	83.84
159.9	194.0	2,825.7	31,020.6	25,938.3	8,765.7	83.62
159.9	196.0	2,813.9	31,340.4	26,134.1	8,868.9	83.39
159.9	198.0	2,802.0	31,660.2	26,327.2	8,972.4	83.16
159.9	200.0	2,790.0	31,980.0	26,517.5	9,076.1	82.92

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller


HP1450_50_B6_P50_160V_RS_MST400-200_WK_23022022
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
4000
3750
3500
3250
3000
2750
2500
2250
2000
1750
1500
100
90
80
70
60
50
40
30
20
10
0
10
50
90
130
170
Speed
Efficiency
Torque

Test Bench Measurement

PLETTENBERG
High End Elektromotoren-Manufaktur

Motor type: **HP 1450-50 B6 P50 RS**

Date: 23.02.2022

Bearing type: RS

Controller: MST 400-200

Measuring Parameter

Voltage: **170.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 4,098.8 [RPM] Io: 6.1 [A] kV: 24.3 [RPM/V] kn: -6.14 [RPM/A] kT: 44.69 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
70.4	10.0	4,126.0	704.0	1,103.1	255.3	156.69
170.4	12.0	4,108.0	2,044.8	1,450.2	337.1	70.92
170.4	14.0	4,090.2	2,385.6	1,795.5	419.2	75.27
170.4	16.0	4,072.7	2,726.4	2,139.3	501.6	78.47
170.4	18.0	4,055.4	3,067.2	2,481.0	584.2	80.89
170.4	20.0	4,038.4	3,408.0	2,820.7	667.0	82.77
170.4	22.0	4,021.7	3,748.8	3,158.6	750.0	84.26
170.4	24.0	4,005.2	4,089.6	3,495.1	833.3	85.46
170.4	26.0	3,988.9	4,430.4	3,829.6	916.8	86.44
170.4	28.0	3,972.8	4,771.2	4,162.8	1,000.6	87.25
170.4	30.0	3,957.0	5,112.0	4,494.3	1,084.6	87.92
170.4	32.0	3,941.5	5,452.8	4,824.3	1,168.8	88.47
170.3	34.0	3,926.1	5,790.2	5,152.8	1,253.3	88.99
170.3	36.0	3,911.0	6,130.8	5,479.9	1,338.0	89.38
170.3	38.0	3,896.0	6,471.4	5,805.3	1,422.9	89.71
170.3	40.0	3,881.3	6,812.0	6,129.7	1,508.1	89.98
170.3	42.0	3,866.8	7,152.6	6,452.6	1,593.5	90.21
170.3	44.0	3,852.5	7,493.2	6,774.4	1,679.2	90.41
170.3	46.0	3,838.4	7,833.8	7,094.5	1,765.0	90.56
170.3	48.0	3,824.4	8,174.4	7,413.5	1,851.1	90.69
170.3	50.0	3,810.7	8,515.0	7,731.7	1,937.5	90.80
170.3	52.0	3,797.1	8,855.6	8,048.5	2,024.1	90.89
170.3	54.0	3,783.7	9,196.2	8,364.0	2,110.9	90.95
170.3	56.0	3,770.5	9,536.8	8,678.7	2,198.0	91.00
170.3	58.0	3,757.4	9,877.4	8,992.1	2,285.3	91.04
170.3	60.0	3,744.6	10,218.0	9,304.5	2,372.8	91.06

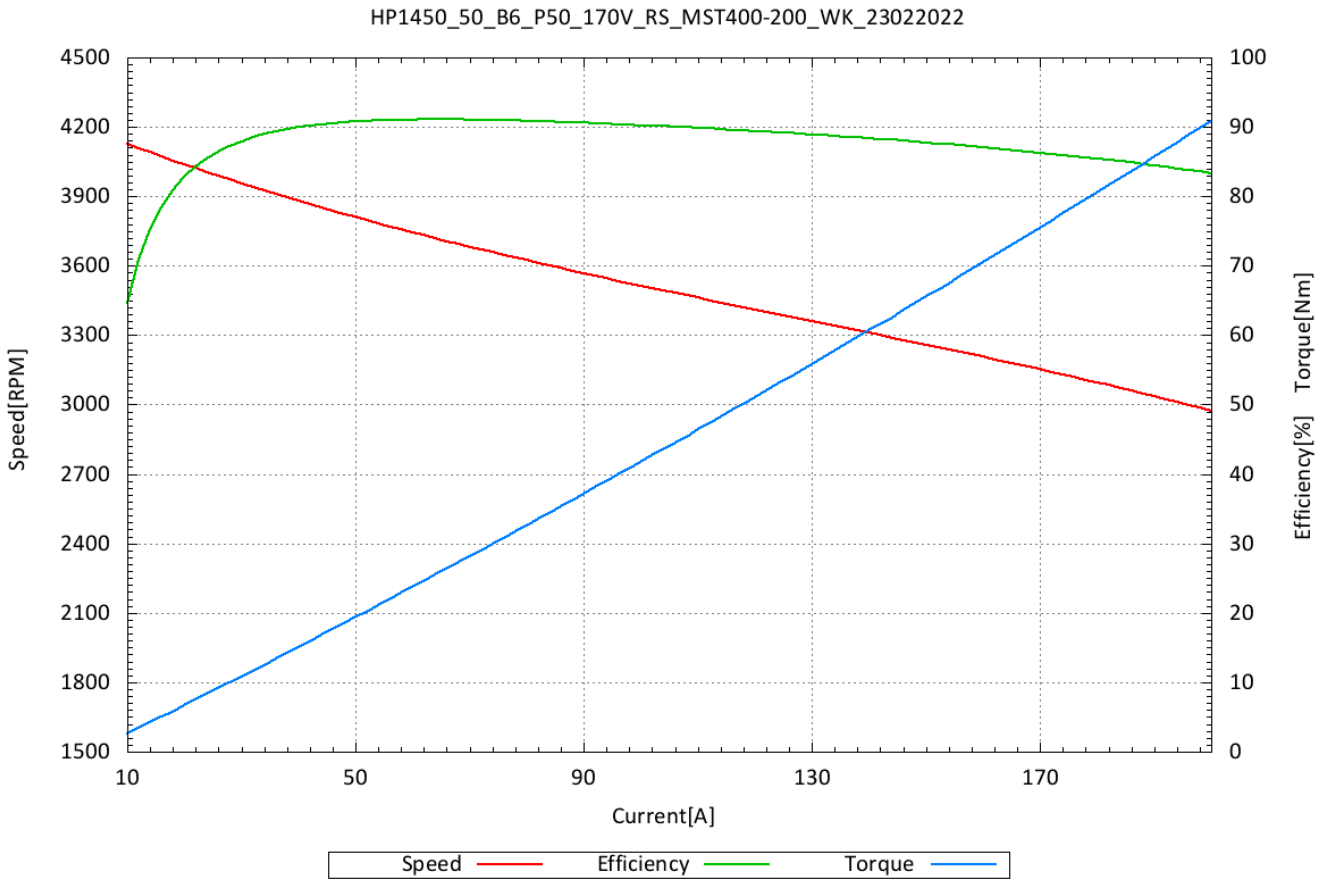
PLETTENBERG
High End Elektromotoren-Manufaktur

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
170.2	64.0	3,719.2	10,892.8	9,925.7	2,548.5	91.12
170.2	66.0	3,706.8	11,233.2	10,235.4	2,636.8	91.12
170.2	68.0	3,694.5	11,573.6	10,543.4	2,725.2	91.10
170.2	70.0	3,682.4	11,914.0	10,851.3	2,814.0	91.08
170.2	72.0	3,670.4	12,254.4	11,157.7	2,902.9	91.05
170.2	74.0	3,658.5	12,594.8	11,463.3	2,992.1	91.02
170.2	76.0	3,646.7	12,935.2	11,767.7	3,081.5	90.97
170.2	78.0	3,635.1	13,275.6	12,071.3	3,171.1	90.93
170.2	80.0	3,623.6	13,616.0	12,374.3	3,261.0	90.88
170.2	82.0	3,612.2	13,956.4	12,676.2	3,351.1	90.83
170.2	84.0	3,600.9	14,296.8	12,977.4	3,441.5	90.77
170.2	86.0	3,589.7	14,637.2	13,277.6	3,532.1	90.71
170.2	88.0	3,578.6	14,977.6	13,576.8	3,622.9	90.65
170.1	90.0	3,567.6	15,309.0	13,875.4	3,714.0	90.64
170.1	92.0	3,556.7	15,649.2	14,173.1	3,805.3	90.57
170.1	94.0	3,545.8	15,989.4	14,469.4	3,896.8	90.49
170.1	96.0	3,535.1	16,329.6	14,765.6	3,988.6	90.42
170.1	98.0	3,524.4	16,669.8	15,060.4	4,080.6	90.35
170.1	100.0	3,513.8	17,010.0	15,354.4	4,172.8	90.27
170.1	102.0	3,503.3	17,350.2	15,647.9	4,265.3	90.19
170.1	104.0	3,492.8	17,690.4	15,940.0	4,358.0	90.11
170.1	106.0	3,482.4	18,030.6	16,231.4	4,450.9	90.02
170.1	108.0	3,472.0	18,370.8	16,521.8	4,544.1	89.93
170.1	110.0	3,461.7	18,711.0	16,811.3	4,637.5	89.85
170.1	112.0	3,451.5	19,051.2	17,100.5	4,731.2	89.76
170.1	114.0	3,441.2	19,391.4	17,387.8	4,825.1	89.67
170.1	116.0	3,431.0	19,731.6	17,674.4	4,919.2	89.57
170.0	118.0	3,420.9	20,060.0	17,960.5	5,013.6	89.53
170.0	120.0	3,410.7	20,400.0	18,244.8	5,108.2	89.44
170.0	122.0	3,400.6	20,740.0	18,528.4	5,203.0	89.34
170.0	124.0	3,390.5	21,080.0	18,811.0	5,298.1	89.24
170.0	126.0	3,380.4	21,420.0	19,092.3	5,393.4	89.13
170.0	128.0	3,370.3	21,760.0	19,372.4	5,488.9	89.03
170.0	130.0	3,360.3	22,100.0	19,652.0	5,584.7	88.92
170.0	132.0	3,350.2	22,440.0	19,929.7	5,680.7	88.81
170.0	134.0	3,340.1	22,780.0	20,206.1	5,776.9	88.70
170.0	136.0	3,330.0	23,120.0	20,481.5	5,873.4	88.59
170.0	138.0	3,319.9	23,460.0	20,755.6	5,970.1	88.47
170.0	140.0	3,309.8	23,800.0	21,028.7	6,067.1	88.36

PLETTENBERG
High End Elektromotoren-Manufaktur

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
169.9	144.0	3,289.4	24,465.6	21,569.4	6,261.7	88.16
169.9	146.0	3,279.2	24,805.4	21,837.6	6,359.3	88.04
169.9	148.0	3,269.0	25,145.2	22,104.9	6,457.2	87.91
169.9	150.0	3,258.7	25,485.0	22,370.3	6,555.4	87.78
169.9	152.0	3,248.3	25,824.8	22,633.3	6,653.7	87.64
169.9	154.0	3,237.9	26,164.6	22,895.2	6,752.3	87.50
169.9	156.0	3,227.5	26,504.4	23,155.9	6,851.2	87.37
169.9	158.0	3,216.9	26,844.2	23,413.3	6,950.2	87.22
169.9	160.0	3,206.4	27,184.0	23,670.3	7,049.5	87.07
169.9	162.0	3,195.7	27,523.8	23,924.7	7,149.1	86.92
169.9	164.0	3,185.0	27,863.6	24,177.4	7,248.9	86.77
169.9	166.0	3,174.2	28,203.4	24,427.8	7,348.9	86.61
169.9	168.0	3,163.3	28,543.2	24,675.9	7,449.1	86.45
169.9	170.0	3,152.3	28,883.0	24,921.8	7,549.6	86.29
169.8	172.0	3,141.3	29,205.6	25,166.1	7,650.3	86.17
169.8	174.0	3,130.1	29,545.2	25,407.5	7,751.3	86.00
169.8	176.0	3,118.8	29,884.8	25,646.3	7,852.5	85.82
169.8	178.0	3,107.5	30,224.4	25,883.3	7,953.9	85.64
169.8	180.0	3,096.0	30,564.0	26,117.3	8,055.6	85.45
169.8	182.0	3,084.4	30,903.6	26,348.5	8,157.5	85.26
169.8	184.0	3,072.7	31,243.2	26,577.1	8,259.6	85.07
169.8	186.0	3,060.8	31,582.8	26,802.4	8,362.0	84.86
169.8	188.0	3,048.8	31,922.4	27,024.9	8,464.6	84.66
169.8	190.0	3,036.7	32,262.0	27,244.5	8,567.4	84.45
169.8	192.0	3,024.5	32,601.6	27,461.6	8,670.5	84.23
169.8	194.0	3,012.1	32,941.2	27,674.9	8,773.8	84.01
169.8	196.0	2,999.6	33,280.8	27,885.5	8,877.4	83.79
169.8	198.0	2,986.9	33,620.4	28,091.8	8,981.1	83.56
169.7	200.0	2,974.0	33,940.0	28,294.6	9,085.2	83.37

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller


HP1450_50_B6_P50_170V_RS_MST400-200_WK_23022022
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
4500
4200
3900
3600
3300
3000
2700
2400
2100
1800
1500
100
90
80
70
60
50
40
30
20
10
0
10
50
90
130
170
Speed
Efficiency
Torque

Test Bench Measurement

PLETTENBERG
High End Elektromotoren-Manufaktur

Motor type: **HP 1450-50 B6 P50 RS**

Date: 23.02.2022
Bearing type: RS
Controller: MST 400-200

Measuring Parameter

Voltage: **180.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 4,347.8 [RPM] Io: 6.0 [A] kV: 24.3 [RPM/V] kn: -6.44 [RPM/A] kT: 44.61 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
80.6	10.0	4,376.4	806.0	1,203.5	262.6	149.32
180.6	12.0	4,357.3	2,167.2	1,570.1	344.1	72.45
180.6	14.0	4,338.5	2,528.4	1,934.5	425.8	76.51
180.5	16.0	4,320.0	2,888.0	2,297.2	507.8	79.54
180.5	18.0	4,301.8	3,249.0	2,657.9	590.0	81.81
180.5	20.0	4,283.9	3,610.0	3,016.4	672.4	83.56
180.5	22.0	4,266.2	3,971.0	3,373.5	755.1	84.95
180.5	24.0	4,248.8	4,332.0	3,729.0	838.1	86.08
180.5	26.0	4,231.6	4,693.0	4,082.6	921.3	86.99
180.5	28.0	4,214.7	5,054.0	4,434.4	1,004.7	87.74
180.5	30.0	4,198.1	5,415.0	4,784.9	1,088.4	88.36
180.5	32.0	4,181.7	5,776.0	5,133.6	1,172.3	88.88
180.5	34.0	4,165.5	6,137.0	5,480.5	1,256.4	89.30
180.5	36.0	4,149.5	6,498.0	5,826.2	1,340.8	89.66
180.5	38.0	4,133.8	6,859.0	6,170.9	1,425.5	89.97
180.5	40.0	4,118.4	7,220.0	6,514.0	1,510.4	90.22
180.4	42.0	4,103.1	7,576.8	6,855.5	1,595.5	90.48
180.4	44.0	4,088.0	7,937.6	7,195.8	1,680.9	90.66
180.4	46.0	4,073.2	8,298.4	7,534.9	1,766.5	90.80
180.4	48.0	4,058.6	8,659.2	7,873.0	1,852.4	90.92
180.4	50.0	4,044.1	9,020.0	8,209.5	1,938.5	91.01
180.4	52.0	4,029.9	9,380.8	8,544.9	2,024.8	91.09
180.4	54.0	4,015.8	9,741.6	8,879.1	2,111.4	91.15
180.4	56.0	4,002.0	10,102.4	9,212.4	2,198.2	91.19
180.4	58.0	3,988.3	10,463.2	9,544.6	2,285.3	91.22
180.4	60.0	3,974.7	10,824.0	9,875.5	2,372.6	91.24

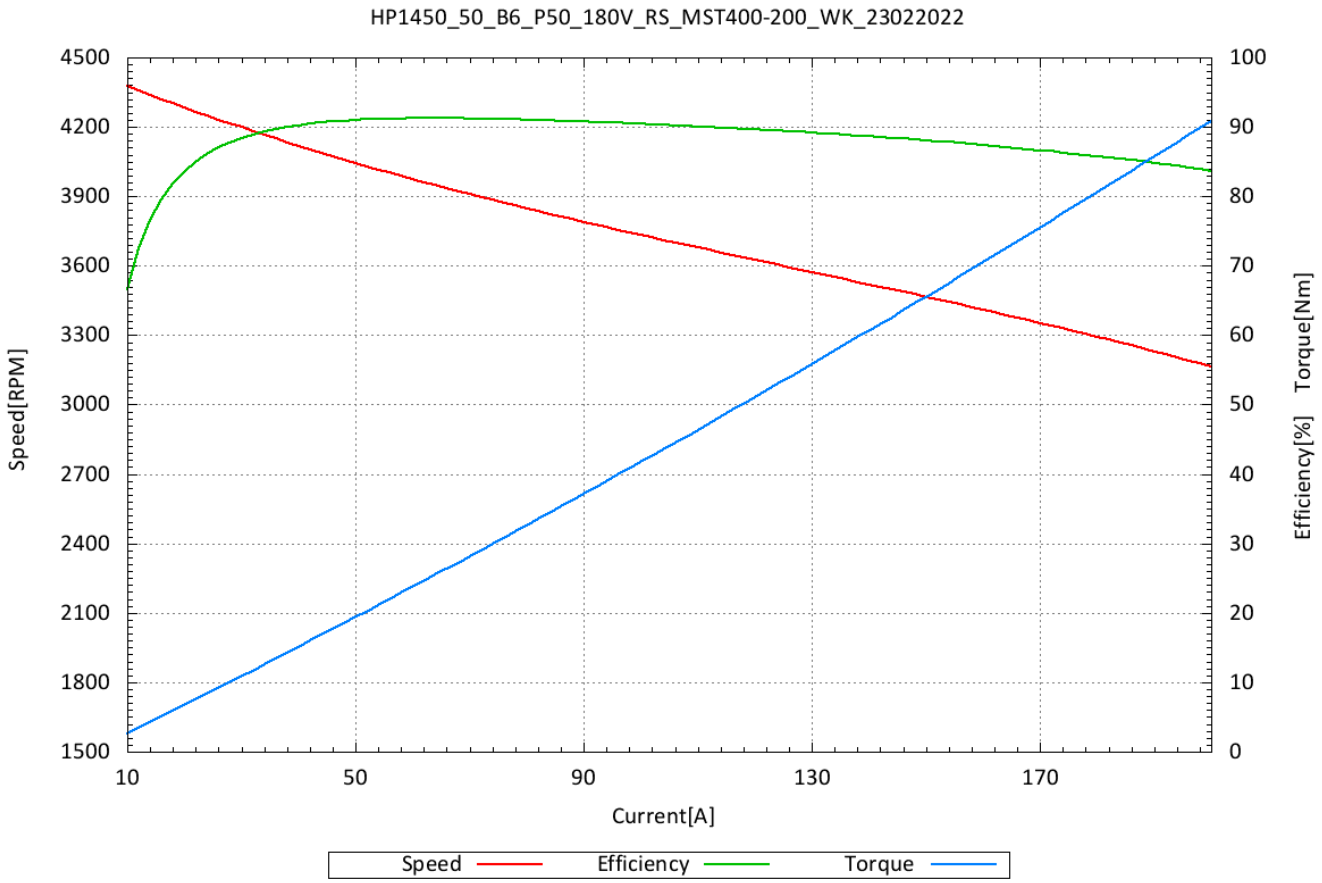
PLETTENBERG
High End Elektromotoren-Manufaktur

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
180.4	64.0	3,948.2	11,545.6	10,534.8	2,548.0	91.25
180.3	66.0	3,935.2	11,899.8	10,862.8	2,636.0	91.29
180.3	68.0	3,922.3	12,260.4	11,189.9	2,724.3	91.27
180.3	70.0	3,909.6	12,621.0	11,516.0	2,812.8	91.24
180.3	72.0	3,897.0	12,981.6	11,841.2	2,901.6	91.22
180.3	74.0	3,884.6	13,342.2	12,165.6	2,990.6	91.18
180.3	76.0	3,872.3	13,702.8	12,489.2	3,079.9	91.14
180.3	78.0	3,860.1	14,063.4	12,811.6	3,169.4	91.10
180.3	80.0	3,848.0	14,424.0	13,132.9	3,259.1	91.05
180.3	82.0	3,836.1	14,784.6	13,453.9	3,349.1	91.00
180.3	84.0	3,824.3	15,145.2	13,774.1	3,439.4	90.95
180.3	86.0	3,812.6	15,505.8	14,092.9	3,529.8	90.89
180.3	88.0	3,801.0	15,866.4	14,411.4	3,620.6	90.83
180.3	90.0	3,789.4	16,227.0	14,728.2	3,711.5	90.76
180.2	92.0	3,778.0	16,578.4	15,044.7	3,802.7	90.75
180.2	94.0	3,766.7	16,938.8	15,360.6	3,894.2	90.68
180.2	96.0	3,755.5	17,299.2	15,675.5	3,985.9	90.61
180.2	98.0	3,744.3	17,659.6	15,989.1	4,077.8	90.54
180.2	100.0	3,733.2	18,020.0	16,302.2	4,170.0	90.47
180.2	102.0	3,722.2	18,380.4	16,614.3	4,262.4	90.39
180.2	104.0	3,711.2	18,740.8	16,925.5	4,355.1	90.31
180.2	106.0	3,700.4	19,101.2	17,236.2	4,448.0	90.24
180.2	108.0	3,689.5	19,461.6	17,545.2	4,541.1	90.15
180.2	110.0	3,678.7	19,822.0	17,853.6	4,634.5	90.07
180.2	112.0	3,668.0	20,182.4	18,161.6	4,728.2	89.99
180.2	114.0	3,657.3	20,542.8	18,467.9	4,822.0	89.90
180.2	116.0	3,646.6	20,903.2	18,773.5	4,916.2	89.81
180.1	118.0	3,635.9	21,251.8	19,077.5	5,010.5	89.77
180.1	120.0	3,625.3	21,612.0	19,381.0	5,105.1	89.68
180.1	122.0	3,614.7	21,972.2	19,683.6	5,200.0	89.58
180.1	124.0	3,604.1	22,332.4	19,984.8	5,295.1	89.49
180.1	126.0	3,593.6	22,692.6	20,285.2	5,390.4	89.39
180.1	128.0	3,583.0	23,052.8	20,584.1	5,486.0	89.29
180.1	130.0	3,572.4	23,413.0	20,881.6	5,581.8	89.19
180.1	132.0	3,561.8	23,773.2	21,178.0	5,677.9	89.08
180.1	134.0	3,551.2	24,133.4	21,473.1	5,774.2	88.98
180.1	136.0	3,540.6	24,493.6	21,766.8	5,870.7	88.87
180.1	138.0	3,530.0	24,853.8	22,059.5	5,967.5	88.76
180.1	140.0	3,519.4	25,214.0	22,351.1	6,064.6	88.65

PLETTENBERG
High End Elektromotoren-Manufaktur

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
180.0	144.0	3,498.0	25,920.0	22,928.8	6,259.4	88.46
180.0	146.0	3,487.2	26,280.0	23,214.8	6,357.1	88.34
180.0	148.0	3,476.4	26,640.0	23,500.0	6,455.2	88.21
180.0	150.0	3,465.5	27,000.0	23,782.7	6,553.4	88.08
180.0	152.0	3,454.6	27,360.0	24,064.2	6,651.9	87.95
180.0	154.0	3,443.7	27,720.0	24,344.2	6,750.6	87.82
180.0	156.0	3,432.6	28,080.0	24,621.6	6,849.6	87.68
180.0	158.0	3,421.5	28,440.0	24,897.5	6,948.8	87.54
180.0	160.0	3,410.3	28,800.0	25,171.3	7,048.3	87.40
180.0	162.0	3,399.1	29,160.0	25,443.5	7,148.0	87.25
180.0	164.0	3,387.7	29,520.0	25,712.9	7,248.0	87.10
180.0	166.0	3,376.3	29,880.0	25,980.7	7,348.2	86.95
179.9	168.0	3,364.8	30,223.2	26,246.0	7,448.6	86.84
179.9	170.0	3,353.1	30,583.0	26,508.3	7,549.3	86.68
179.9	172.0	3,341.4	30,942.8	26,768.9	7,650.2	86.51
179.9	174.0	3,329.5	31,302.6	27,026.4	7,751.4	86.34
179.9	176.0	3,317.6	31,662.4	27,282.1	7,852.8	86.17
179.9	178.0	3,305.5	32,022.2	27,534.6	7,954.5	85.99
179.9	180.0	3,293.3	32,382.0	27,784.4	8,056.4	85.80
179.9	182.0	3,280.9	32,741.8	28,030.6	8,158.5	85.61
179.9	184.0	3,268.4	33,101.6	28,274.3	8,260.9	85.42
179.9	186.0	3,255.8	33,461.4	28,515.1	8,363.5	85.22
179.9	188.0	3,243.1	33,821.2	28,753.3	8,466.4	85.02
179.9	190.0	3,230.1	34,181.0	28,986.8	8,569.5	84.80
179.9	192.0	3,217.1	34,540.8	29,218.1	8,672.8	84.59
179.8	194.0	3,203.8	34,881.2	29,444.9	8,776.4	84.41
179.8	196.0	3,190.4	35,240.8	29,668.9	8,880.3	84.19
179.8	198.0	3,176.9	35,600.4	29,889.7	8,984.4	83.96
179.8	200.0	3,163.1	35,960.0	30,105.3	9,088.7	83.72

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller


HP1450_50_B6_P50_180V_RS_MST400-200_WK_23022022
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
4500
4200
3900
3600
3300
3000
2700
2400
2100
1800
1500
100
90
80
70
60
50
40
30
20
10
0
10
50
90
130
170
Speed
Efficiency
Torque