PLETTENBERG

Test Bench Measurement

Motor type: **HP 875-50-A8 S P30**

Date: 17.02.2021

Bearing type: RS

Controller: MST 400-133

Measuring Parameter

Voltage: **320.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 9,907.0 [RPM] Io: 3.4 [A] kV: 31.4 [RPM/V] kn: -42.15 [RPM/A] kT: 36.64 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
319.9	5.0	9,990.6	1,599.5	1,011.7	96.7	63.25
319.9	6.0	9,927.7	1,919.4	1,329.7	127.9	69.28
319.8	7.0	9,866.0	2,238.6	1,647.9	159.5	73.61
319.8	8.0	9,805.3	2,558.4	1,964.3	191.3	76.78
319.8	9.0	9,745.6	2,878.2	2,280.9	223.5	79.25
319.8	10.0	9,687.0	3,198.0	2,595.9	255.9	81.17
319.8	11.0	9,629.3	3,517.8	2,911.2	288.7	82.76
319.8	12.0	9,572.7	3,837.6	3,224.9	321.7	84.03
319.8	13.0	9,517.0	4,157.4	3,538.0	355.0	85.10
319.8	14.0	9,462.4	4,477.2	3,850.6	388.6	86.01
319.8	15.0	9,408.6	4,797.0	4,162.8	422.5	86.78
319.8	16.0	9,355.8	5,116.8	4,474.5	456.7	87.45
319.8	17.0	9,304.0	5,436.6	4,784.8	491.1	88.01
319.8	18.0	9,253.0	5,756.4	5,093.9	525.7	88.49
319.8	19.0	9,203.0	6,076.2	5,402.7	560.6	88.92
319.8	20.0	9,153.8	6,396.0	5,710.3	595.7	89.28
319.8	21.0	9,105.5	6,715.8	6,017.7	631.1	89.61
319.7	22.0	9,058.1	7,033.4	6,323.1	666.6	89.90
319.7	23.0	9,011.6	7,353.1	6,628.5	702.4	90.15
319.7	24.0	8,965.8	7,672.8	6,933.7	738.5	90.37
319.7	25.0	8,920.9	7,992.5	7,237.2	774.7	90.55
319.7	26.0	8,876.9	8,312.2	7,539.9	811.1	90.71
319.7	27.0	8,833.6	8,631.9	7,841.7	847.7	90.85
319.7	28.0	8,791.1	8,951.6	8,142.7	884.5	90.96
319.7	29.0	8,749.3	9,271.3	8,442.1	921.4	91.06
319.7	30.0	8,708.4	9,591.0	8,741.0	958.5	91.14

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
319.7	32.0	8,628.7	10,230.4	9,336.9	1,033.3	91.27
319.7	33.0	8,589.9	10,550.1	9,633.1	1,070.9	91.31
319.7	34.0	8,551.8	10,869.8	9,928.0	1,108.6	91.34
319.7	35.0	8,514.5	11,189.5	10,222.6	1,146.5	91.36
319.7	36.0	8,477.8	11,509.2	10,515.9	1,184.5	91.37
319.6	37.0	8,441.8	11,825.2	10,809.0	1,222.7	91.41
319.6	38.0	8,406.4	12,144.8	11,099.9	1,260.9	91.40
319.6	39.0	8,371.7	12,464.4	11,390.7	1,299.3	91.39
319.6	40.0	8,337.6	12,784.0	11,679.6	1,337.7	91.36
319.6	41.0	8,304.1	13,103.6	11,968.4	1,376.3	91.34
319.6	42.0	8,271.3	13,423.2	12,256.3	1,415.0	91.31
319.6	43.0	8,239.0	13,742.8	12,542.3	1,453.7	91.26
319.6	44.0	8,207.3	14,062.4	12,827.5	1,492.5	91.22
319.6	45.0	8,176.1	14,382.0	13,111.8	1,531.4	91.17
319.6	46.0	8,145.5	14,701.6	13,395.4	1,570.4	91.12
319.6	47.0	8,115.5	15,021.2	13,677.5	1,609.4	91.05
319.6	48.0	8,086.0	15,340.8	13,958.1	1,648.4	90.99
319.6	49.0	8,056.9	15,660.4	14,237.7	1,687.5	90.92
319.6	50.0	8,028.4	15,980.0	14,516.9	1,726.7	90.84
319.6	51.0	8,000.4	16,299.6	14,793.9	1,765.8	90.76
319.6	52.0	7,972.8	16,619.2	15,070.1	1,805.0	90.68
319.5	53.0	7,945.7	16,933.5	15,345.9	1,844.3	90.62
319.5	54.0	7,919.1	17,253.0	15,619.6	1,883.5	90.53
319.5	55.0	7,892.8	17,572.5	15,891.7	1,922.7	90.44
319.5	56.0	7,867.0	17,892.0	16,162.7	1,961.9	90.33
319.5	57.0	7,841.7	18,211.5	16,432.7	2,001.1	90.23
319.5	58.0	7,816.6	18,531.0	16,700.9	2,040.3	90.12
319.5	59.0	7,792.0	18,850.5	16,968.2	2,079.5	90.01
319.5	60.0	7,767.8	19,170.0	17,234.4	2,118.7	89.90
319.5	61.0	7,743.9	19,489.5	17,498.4	2,157.8	89.78
319.5	62.0	7,720.3	19,809.0	17,761.2	2,196.9	89.66
319.5	63.0	7,697.1	20,128.5	18,022.2	2,235.9	89.54
319.5	64.0	7,674.2	20,448.0	18,281.2	2,274.8	89.40
319.5	65.0	7,651.6	20,767.5	18,539.1	2,313.7	89.27
319.5	66.0	7,629.3	21,087.0	18,795.8	2,352.6	89.13
319.5	67.0	7,607.2	21,406.5	19,049.7	2,391.3	88.99
319.4	68.0	7,585.4	21,719.2	19,302.5	2,430.0	88.87
319.4	69.0	7,563.9	22,038.6	19,553.5	2,468.6	88.72
319.4	70.0	7,542.6	22,358.0	19,802.6	2,507.1	88.57

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
319.4	72.0	7,500.7	22,996.8	20,295.0	2,583.8	88.25
319.4	73.0	7,480.0	23,316.2	20,537.4	2,621.9	88.08
319.4	74.0	7,459.5	23,635.6	20,778.8	2,660.0	87.91
319.4	75.0	7,439.2	23,955.0	21,017.5	2,697.9	87.74

nl = rpm with no load

Io = current with no load

kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

[1] incl. Controller