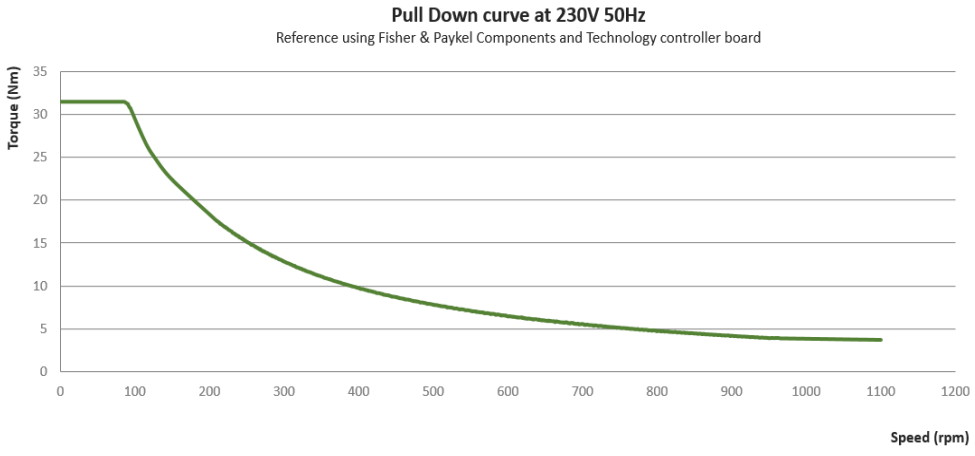
Direct Drive Motor Specification

Motor Model Number
MA35M681

PARAMETER	NOMINAL VALUE	COMMENT
GENERAL		
Type	3-phase brushless permanent-magnet Outer rotor	36 stator poles, 48 rotor poles Sinusoidal Back-EMF wave shape Aluminium wire & Ferrite magnet
Rotor position sensor (RPS – optional)	N/A	Vector sensorless control or 3x digital hall
Ambient temperature	Operating temp > 0°C Storage temp > -20°C	
Total motor mass	4.8 kg	
MOTOR FUNDAMENTALS		
K_e - BEMF constant	4.44 V/rad.s-1	Line to neutral, RMS Voltage
K_t – Torque constant	13.33 Nm/A	
K_m - Motor constant	1.72 $Nm/\sqrt{Watt}$	
Inductance	100 mH	Line to neutral inductance (includes self and mutual inductance)
INDICATIVE PERFORMANCE */ ** AT NOMINAL 230V_{RMS}		
Speed – maximum	1,100 rpm	*
Torque at 90 rpm	31 Nm	*
Torque at 1,000 rpm	3.8 Nm	*
Power output – at 90 rpm	290 W	* at 31 Nm torque
Power output – at 1,000 rpm	400 W	* at 3.8 Nm torque
Efficiency at 90 rpm	42%	* at 31 Nm torque
Efficiency at 170 rpm	71%	* at 16 Nm torque
Efficiency at 1,000 rpm	65%	* at 3.8 Nm torque

* Reference values using Fisher & Paykel motor control at 22 °C. Values may vary using different control board and different tests conditions

** Different performance levels might be achieved through motor customization to other applications.



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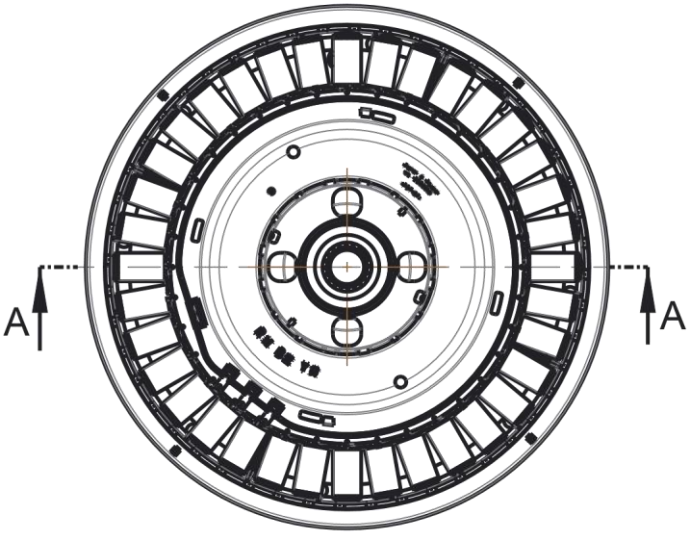
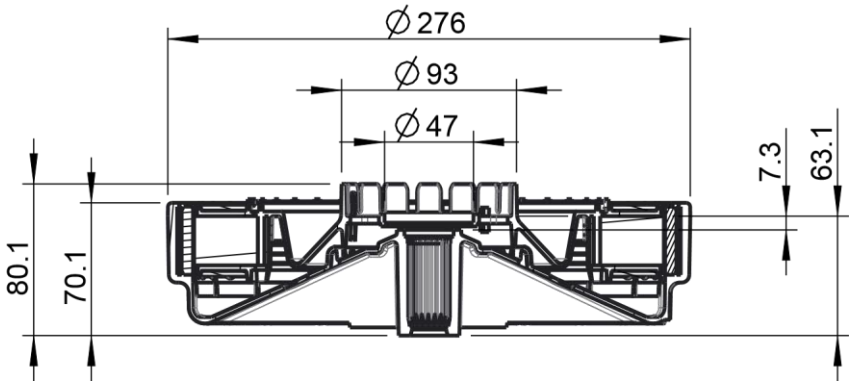
OVERALL DIMENSIONS ***





*** All dimensions in mm

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