

AWTM – Introduction

AWTM - Reliability through simplicity and it doesn't get simpler than this. Following on from the reliable, rugged yet simple design of the AWT, Rotork can now offer a modulating duty version for up to 1200 start per hour.

The AWTM is based mostly on the AWT synchroSET version of actuator, with added wear resistance through the utilisation of the Stainless Steel IQM centre column.

A suitably rated low inertia motor has been incorporated. This along with the omission of the 'Hammerblow' backlash feature allows faster reversal response.

Control

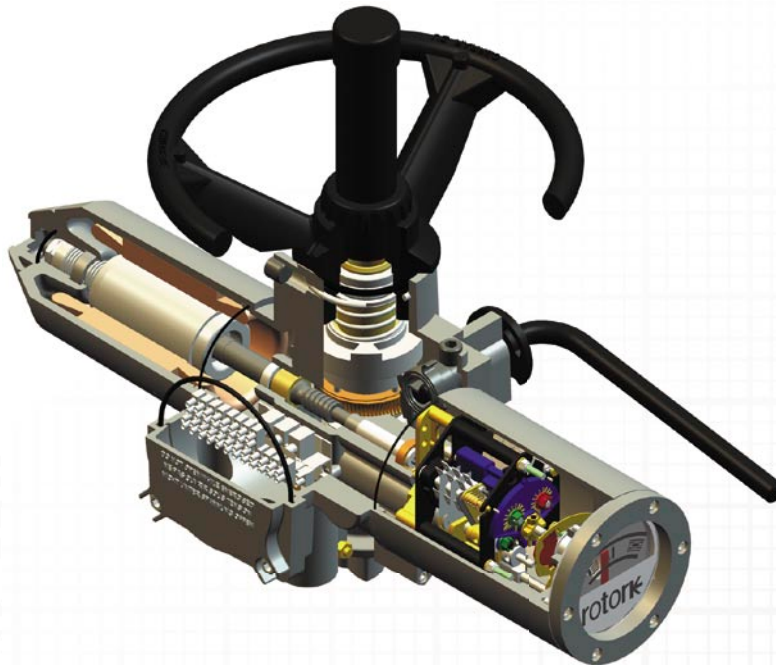
Actuator motor control is achieved via the users MCC (Motor Control Centre), with optional local controls provided at the actuator.

To facilitate the selection of correct contactors, please refer to the A range motor performance datasheet E330E.



AWTM Key Features include:

- Modulating Duty
- No Backlash
- Rugged Design
- Optional Local Controls.



Performance and mechanical data

Actuator size	M10				M12				M20				M25				M35																							
Thrust rating	10000 lbf 44kN								10000 lbf 44kN								22480 lbf 100kN								22480 lbf 100kN								33750 lbf 150kN							
Base sizes to ISO 5210	F10								F10								F14								F14								F16							
Max. rising stem dia. ins/mm	1.25 / 32								1.25 / 32								2 / 51								2 / 51								2 1/8 / 54							
Actuator rpm	Modulating torque		Max. seat. torque		Modulating torque		Max. seat. torque		Modulating torque		Max. seat. torque		Modulating torque		Max. seat. torque		Modulating torque		Max. seat. torque		Modulating torque		Max. seat. torque																	
	50Hz	60Hz	lbs ft	Nm	lbs ft	Nm	lbs ft	Nm	lbs ft	Nm	lbs ft	Nm	lbs ft	Nm	lbs ft	Nm	lbs ft	Nm	lbs ft	Nm	lbs ft	Nm	lbs ft	Nm																
	18	21	12.5	17.0	25	34	25.0	34.0	45	61	60.0	81.0	90	122	112.5	152.0	150	204	200.0	271.0	400	544																		
	24	29	12.5	17.0	25	34	25.0	34.0	40	54	60.0	81.0	80	109	112.5	152.0	150	204	200.0	271.0	400	544																		
	36	43	11.5	15.6	23	30	22.0	30.0	40	54	50.0	68.0	60	81	95.0	129.0	120	163	187.0	253.0	300	408																		
	48	57	10.0	13.6	20	27	20.0	27.0	35	48	40.0	54.0	50	68	75.0	102.0	100	136	150.0	203.0	230	313																		
	72	86	-	-	-	-	-	-	-	-	35.0	47.0	40	54	75.0	102.0	100	136	150.0	203.0	160	218																		

AWTM actuator

technical data sheet

Motor thermostat

The motor thermostat enables the control circuit to be tripped and motor disconnected if the maximum permitted winding temperature is reached. This protection is independent of ambient temperature variation and motor current and provides optimum usage of motor thermal capacity. The thermostat will auto reset on motor cooling. For SyncroSET actuators it is vital that the motor thermostat is connected in series with the motor reversing contactor coils. Refer to publication E320E.

Motor

The integral 3 phase squirrel cage induction motor is specially designed for valve actuation. Class F insulated with winding thermostat, the low inertia, high starting and stalling torque motor provides substantial reserves of power to assure torque switch operation at maximum setting with a voltage reduction as much as 10% below nominal.

TorqueLimit switch mechanism

The unique combined torque and travel limit switch mechanism allows the actuator to be fitted to any valve type. Actuator wiring diagrams do not vary with the valve. Simple mechanical selectors are set for torque or limit tripping to suit both seating (torque) and non seating (position limit) type valves. Selectors for both opening and closing torque switch protection are included to make site adjustment simple. The valve turns range is set by lead screw adjustment that mimics actuator output turns. In addition two open and two close auxiliary switched are provided as standard for remote end of travel indication or interlocking. A mechanical 3 position pointer and dial provides local valve close, intermediate and open position indication. Refer to publication E320E for full description.

AWTM Outline Specification

General

Enclosure Non-Hazardous	IEC IP 68 7m / 72hrs, NEMA4, 4X & 6, CSA WT
Temperature	-30°C to +70°C
Power Supplies	3-phase (50/60Hz)
Mounting Interface	ISO 5210, Mss-SP102
Lubrication	Oil bath lubrication SAE80/90EP. Food grade option available
Finish	Polyester Powder Coating. 2-pak epoxy option available
Handwheel	Top handwheel, Side (geared) handwheel as an option
Orientation	Any
Conduit Entries	3xM25

System

Limit Switching	Combined Torque and Limit switches for Open / Close positions
Torque Switching	Independently adjustable Open /Close torque switches, can be set between 40% and 100% of rated torque. "Boost" can be set in the Open direction

Control

Base wiring diagram	2220-000
Local Control	Optional Local/Stop/Remote and Open/Close selectors

Indication

Local	3 position mechanical pointer
Remote Indication	Close: 1 x NO, 1 x NC. Open: 1 x NO, 1 x NC. Up to 6 volt free contacts, independently adjustable available as an option
Remote Analogue Feedback	Optional potentiometric output available

AWTM supporting documents are available for download at www.rotork.com

E310E	AWT Catalogue
E320E	AWT Control and Monitoring
E330E	AWT electric motor performance data
E370E	AWT Installation & Maintenance Instructions

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