Work with
* ATI
* Barber coleman
* Honeywell
* Johnson
* Landis & Gyr
* Satchwell
* Sauter
* Staefa
* T/A
* TEG
* Others

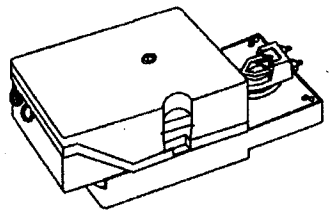
Electric Rotary Actuators

Synchronous motor drives,3-Position,220Vac with Magnetic coupling safety system

AQR35.1.

AQR35.1212 0

- Aux. output 0= none 1=spst 2=140Ω 3=1000Ω 9=Converter
- Output Torque(Nm); 1=7.5N **2=15** 3=20 4=30 9=Options
- Running time;**1=120s** 2=60s 3=30s 4=15s 5=10s 6=5s 9=Options
- Supply voltage 1=110Vac,2=24Vac,**3=220Vac**,4=380Vac,7=12Vdc,8=24Vdc
- **1=Rotary** 2=Linear 9=Options
- Version No.
- Input signal: 2=On/Off, **3=3-pos. 220Vac,** 5=4..20mA 6=0..10Vdc 7=0..20Vdc, 8=3-pos.24Vac , 9=0..135Ω
- **R=Damper**
- Type of drive motor I= Induction, **Q= Synchronous ,** S= Servo, U= DC , Z= Stepper
- Product group: **A= Actuator**



Description

Electrical actuator,3-position-foreward-stop-reverse-control,rotating angle is 90° and magnetic coupling with mechanical limitation system without spring return.

Application

In heating,ventilating, air conditioning and other industrial installations for control of air dampers ,VAV terminals and other ventilating openings having up to 5m² to be controlled by electrical remote control.
Relay signals are also acceptable.

Ordering Specification

When ordering,please give full designation and type reference of unit;

Ex: AQR35.1212 0 — Electrical Damper Actuator, 3-position control, Rotary type , 220Vac,120s,15Nm, for aux unit

Technical Data

Supply voltage	220V ac ± 20%
Frequency	50Hz, 60Hz
Power source	Synchronous motor
Power consumption	3VA...
Running time	125s at 60Hz.
	150s at 50Hz
Model of control	3-Position
Travel /angular rotation	90°
Noise level	>35[dB] max.
Nominal Torque	15Nm.constant
Torque limiter	Magnetic coupling
Control signal	
Neutral (G0)	N (C)
Control signal(Y1)	P1(A)
Control signal(Y2)	P2(B)
Aux.output	
Resistance	0...1000 (0...100%)
Switching	10(3)24...250Vac
Weight	1.Kg
Permissible amb.temp.	
Operation	-15...+50°C
Transport & storage	-30...+65°C
Permissible amb.humid.	class D to DIN 40040
Protection standard of housing	IP54 to DIN 40050
Max. medium temp.	+150 °C
Cable entry glands	PG11

Accessories;

position indication unit	
-potentiometer	-0...140Ω
-potentiometer	-0...1000Ω
position alarm switch	
-snap action switch	10(3)A 24...250Vac
Estimated life time	
-Drive motor	40,000,000 cycles
-Gear train	80,000,000 cycles

Summary of types

Type Nr.	Output Torque	Running time 50Hz	Running time 60Hz	Space for Aux.units 0	1	2	3
AQR35.12110	7.5Nm	150s	125s	0	SW	140Ω	1000Ω
AQR35.12120	15.0Nm	150s	125s	0	SW	140Ω	1000Ω
AQR35.12130	20.0Nm	150s	125s	0	SW	140Ω	1000Ω
AQR35.12140	30.0Nm	150s	125s	0	SW	140Ω	1000Ω
AQR35.12210	7.5Nm	72s	60s	0	SW	140Ω	1000Ω
AQR35.12220	15.0Nm	72s	60s	0	SW	140Ω	1000Ω
AQR35.12230	20.0Nm	72s	60s	0	SW	140Ω	1000Ω
AQR35.12240	30.0Nm	72s	60s	0	SW	140Ω	1000Ω

Function

The actuator is controlled by a standard signal of 3-position On/Off relay received from conventional electro-mechanical switch of temperature,pressure,level,etc., or from conventional electronic switching controller or DDC unit. It provides electronic position control which ,in conjunction with ATI or any compatible paddle type air dampers or air valves.

Power supply to Y1 : rotate foreward
supply to Y2 : rotate reverse way
disconnect power : remain still at the position

This type of actuators can be used for time based pulse output signal for P,PI,PID controls such as DDC or PLC supervisory system.

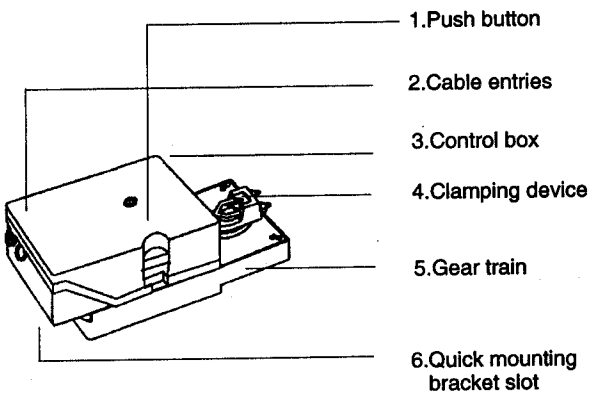
For slave control of series connection of many units you must use potentiometer.

Auxiliary units
Reference output any combination of following.
- 0...1000Ω resistance signal allows indication of position.
- On / Off switching units

Design Features

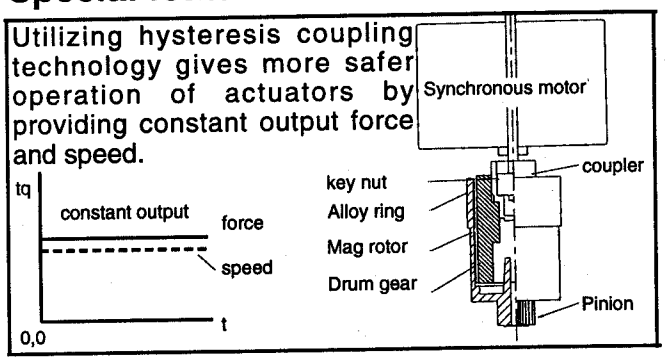
Actuator are supplied as separate units.Assembling them requires neither special tools nor adjustments.

- Maintenance free electrical actuator with reversible synchronous motor
- A switch on PCB can reverse the rotation of the actuator.
- Blocking proof gear train with self-lubrication sintered bearings
- Quick mounting bracket make easy installation.
- Constant speed and constant power-torque-.
- Contactless coupling insures long life and quite operation.
- Gear train is made of aluminum die-cast and specially coated for corrosion proof.
- Important gears are made of sintered metal or special tool steel and heat treatment.



Special features

Utilizing hysteresis coupling technology gives more safer operation of actuators by providing constant output force and speed.



Application Advice

For further information on the complete regulating unit consist of actuator and valve also refer to the Data Sheet of the various type of valves, 43000... 44999.
Observe the permissible temperatures. For details refer to <Application > and <Technical Data>

Data Sheet 34001 contains basic system data on **POLYTEK**. All hints and explanations given in this sheet must be observed.

All units connected to terminals Y and U, together with the AQR..., must be connected to the same G0.
The factory fitted link across terminals R and M may be removed only if a unit is connected between theses terminals.

Mounting and Installation Advice

Mounting positions:

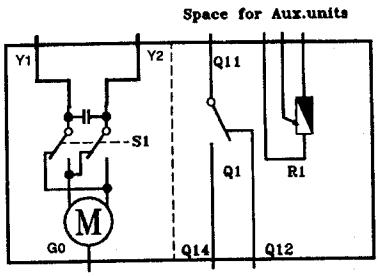
The actuator's mounting instructions are supplied in the box of the unit.

Commissioning Advice

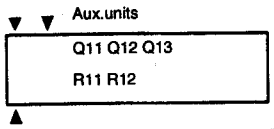
When commissioning the installation, check the wiring and make a functional test.

Wiring Diagram

Internal Diagram

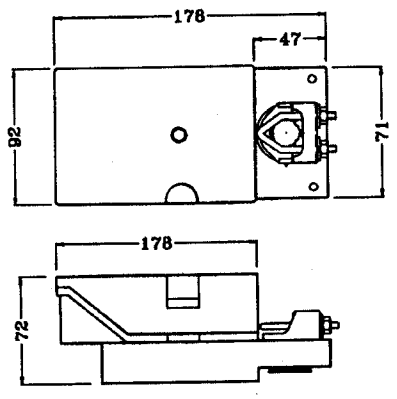


Connecting terminals



Y1	= Operating voltage P1
Y2	Operating voltage P2
G0	G0=system neutral(SN)
Q11	= Switch common
Q12	= Normal close
Q13	= Normal open
R11	= Measuring neutral
R12	= 0...1000

Dimensions



Dimensions in mm