

**Work with**

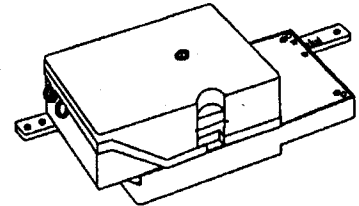
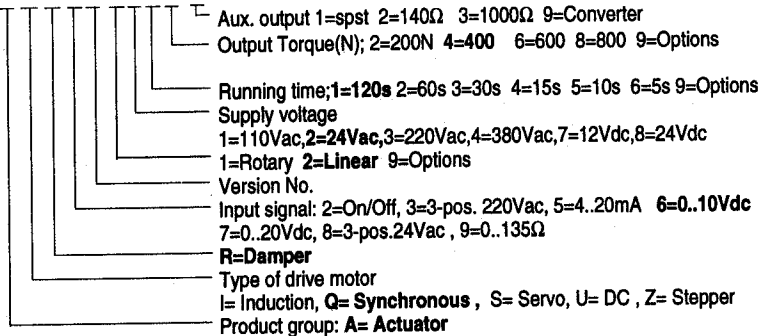
- \* ATI
- \* Barber coleman
- \* Honeywell
- \* Johnson
- \* Landis & Gyr
- \* Satchwell
- \* Sauter
- \* Staefa
- \* T/A
- \* TEG
- \* Others

# Electric Linear Actuators

Synchronous motor drives, Modulating with Magnetic coupling safety system

## AQR65.2.

### AQR65.2214 0



### Description

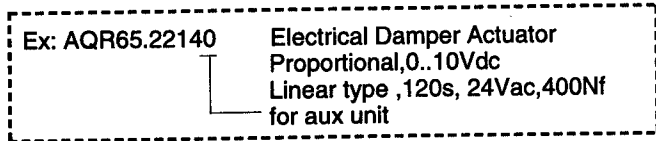
Electrical actuator, 0...10Vdc control, stroke is 60mm and magnetic coupling with mechanical limitation system without spring return.

### Application

In heating, ventilating, air conditioning and other industrial installations for control of air dampers, VAV terminals and other ventilating openings to be controlled by electrical remote control. Signals from other controllers are also acceptable.

### Ordering Specification

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



### Technical Data

Supply voltage	24V ac ± 20%
Frequency	50Hz, 60Hz
Power source	Synchronous motor
Power consumption	3VA...
Running time	125s at 60Hz. 150s at 50Hz
Model of control	Proportional(std)
Travel /stroke	62mm
Noise level	35[dB] max.
Nominal Torque	400Nf.constant
Control signal(Y)	
Voltage	0...10Vdc
Current	0.1mA max.
Control signal(R)	
Resistance	0...1000Ω (0...100%)
Control output(U)	Optional
Voltage	0...10Vdc(std)
Current	0.5mA max.
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;

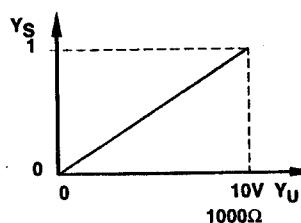
position indication unit	
-potentiometer	-0...140
-potentiometer	-0...1000
position alarm switch	
-snap action switch	10(3)A 24...250Vac
Estimated life time	
-Drive motor	40,000,000 cycles
-Gear train	80,000,000 cycles

### Summary of types

Type Nr.	Output Force[f]	Running time		Space for Aux.units		
		50Hz	60Hz	0	1	2 3
AQR65.22120	200N	150s	125s	0	SW	140Ω 1000Ω
AQR65.22140	400N	150s	125s	0	SW	140Ω 1000Ω
AQR65.22150	600N	150s	125s	0	SW	140Ω 1000Ω
AQR65.22180	800N	150s	125s	0	SW	140Ω 1000Ω
AQR65.22210	100N	72s	60s	0	SW	140Ω 1000Ω
AQR65.22220	200N	72s	60s	0	SW	140Ω 1000Ω
AQR65.22230	300N	72s	60s	0	SW	140Ω 1000Ω
AQR65.22240	400N	72s	60s	0	SW	140Ω 1000Ω

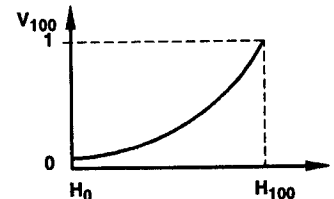
### Function

The actuator is controlled by a standard signal of 0...10Vdc received from conventional electronic controller or DDC unit. It provides electronic position control which, in conjunction with ATI or any compatible venturi type air dampers or air valves, gives an equal percentage valve characteristic.



Correlation between control signal and correcting variable

YS = Correcting variable  
 YU = control signal 0...10Vdc  
 YR = correcting signal 0...10Vdc



Correlation between valve stroke and volumetric flow

V100 = volumetric flow  
 H.. = valve stroke

### Auxiliary units

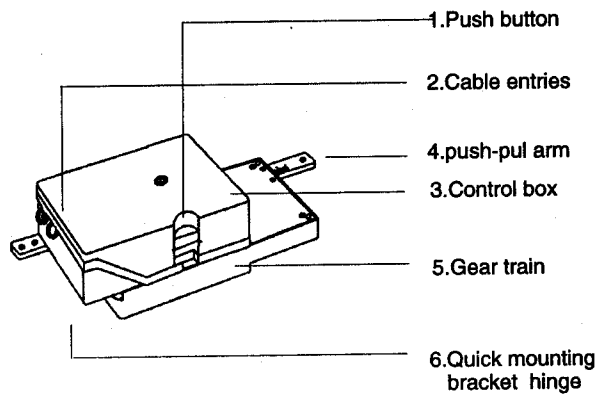
Control output U with a 0...10Vdc control signal allows control of the following units:

- Indication units
- On / Off switching units

## Design Features

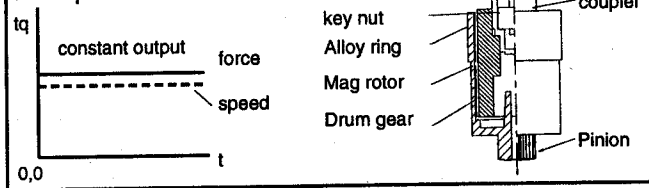
Actuator are supplied as separate units. Assembling them requires neither special tools nor adjustments.

- 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.

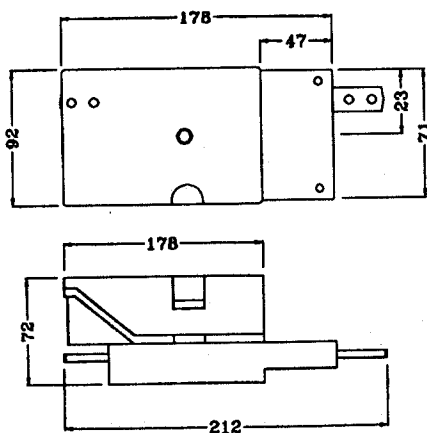


## Application Advice

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>

## Dimensions



Dimensions in mm

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.

## Mounting and Installation Advice

Mounting positions:

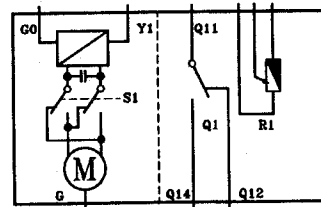
The actuator's mounting instructions are supplied in the box of the unit.

## Commissioning Advice

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

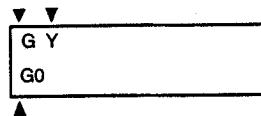
## Wiring Diagram

### Internal Diagram



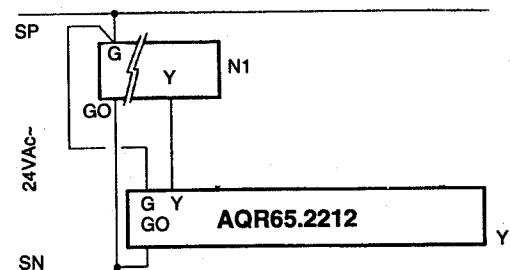
- G, G0 = Operating voltage 24V ac
- G = system potential (SP)
- G0 = system neutral (SN)
- Y = control signal 0...10Vdc
- S1 = Change-over switch
- Q1 = Switch unit
- R1 = Potentiometer
- M = Synchronous motor

### Connecting terminals



### Wiring diagram

The wiring diagram shows all possible connections. How many and which of these are used depends on the system involved.



- G = System potential
- GO = System neutral
- Y = controller
- N1 = Controller
- Y1 = actuator

We reserve the right to make changes and improvements in our products which may affect the accuracy of the information contained in this leaflet.