



TI-P358-30
 CH Issue 2

AEL56 and AEL66 Series Electric Actuators for DN125 to DN300 Control Valves

Description

The AEL56 and AEL66 series electric actuators are reversible having linear output. For further product specific data of the actuator, see the following Technical Information sheets: TI-P358-25 for the **AEL5** or TI-P358-23 for the **AEL6**.

Available types

The actuators are available with 5 supply variants: 230 Vac, 115 Vac, 24 Vac, 24 Vac and 24Vdc. The standard version is suitable for VMD (Valve Motor Drive) input power signal. If required the actuator can be fitted with a positioner input card that can accept (4 - 20 mA or 2 - 10 Vdc) control signals.

All the actuators are fitted with a 1 k Ω potentiometer as standard. This can either be used in conjunction with the positioner for 2 - 10 V or 4 - 20 mA input signals, or as feedback for VMD. Also available are auxiliary limit switches and anti-condense heater. See TI-P358-28 for further details on the accessories.

2-port	DN125, DN150 and DN200	K series control valves (mk1)
		C series control valves
		Spira-trol™ K and J series control valves
3-port	DN125, DN150 and DN200	QL series control valves

Technical data

Model	AEL56411	AEL56412	AEL56413	AEL66311	AEL66312	AEL66313
Supply voltage	230 Vac	15 Vac	24 Vac	230 Vac	15 Vac	24 Vac / 24 Vdc
Supply frequency	50 / 60 Hz			50 / 60 Hz		50 / 60 Hz
Power consumption	100 VA			135 VA	135 VA	135 VA
Enclosure rating	IP65			IP65		
Actuator speed	1 mm/s			0.2 - 0.4 mm/s	0.2 - 0.4 mm/s	0.2 - 0.4 mm/s
Stroke	100 mm			95 mm	95 mm	100 mm
Actuator thrust	25 kN			25 kN		
Ambient limits	-20 to +60°C			-20 to +60°C		
Motor	Asynchronous capacitor reversing motor			dc brushed motor		
Terminations	1.5 mm ²			1.5 mm ²		
Manual override	Handwheel			Handwheel		
Conduit entries	3 x PG16			3 x PG16		
Card power consumption	1 VA					

Approvals

This equipment is CE marked, and conforms to EN 50081-1 and EN 50082-2 (EMC), EN 61010-1/A2 (Safety), following the provisions of directives 89/336/EEC amended by 92/31/EEC and 93/68/EEC (EMC) and 72/73/EEC amended by 93/68/EEC (LVD).

Mounting parts

Control valves	Mounting flange	Coupling part
QL series	EL5973	EL5946
K series (mk1)		
C series	EL5973	EL5948
Spira-trol™ K and J series	EL5974	EL5955

AEL56 or AEL66 actuator maximum differential pressures - bar

Actuators should be sized against K_{VS} rather than valve size

KE and QL series control valves

Valve size	DN125				DN150				DN200			
Travel	50	30			50	30			50	30		
Valve seat sizes	Full Kvs	Reduced K_{VS}			Full Kvs	Reduced K_{VS}			Full Kvs	Reduced K_{VS}		
		1	2	3		1	2	3		1	2	3
Maximal ΔP *	16.2 (15.8)	24.6 (24.1)	38 (37.2)	40 (37.2)	11.1 (10.9)	16.2 (15.8)	24.6 (24.1)	38 (37.2)	6.2 (6.1)	11.1 (10.9)	16.2 (15.8)	24.6 (24.1)

* **Note:** Differential pressures are shown in brackets for a valve with high temperature graphite stem sealing.

C series control valves

Valve size	DN125				DN150				DN200			
Travel	65	50	38	38	65	65	50	38	75	65	65	50
Valve seat sizes	Full Kvs	Reduced K_{VS}			Full Kvs	Reduced K_{VS}			Full Kvs	Reduced K_{VS}		
		1	2	3		1	2	3		1	2	3
Unbalanced valve Maximal ΔP	18	23.6	38.4	54.5	12.3	17.7	23.2	37.7	6.7	11.8	17.1	22.3
Balanced valve Maximal ΔP	100	100	100	100	100	100	100	100	100	100	100	100

Spira-trol™ K and J series control valves

Valve size	DN125	DN150	DN200	DN250	DN300		
Travel	70	70	70	70	70		
Kv	all	all	all	all	full	reduced	
Unbalanced valve Maximal ΔP	PTFE	15.0	8.2	3.6	3.6	0.4	3.6
	graphite	14.6	8.0	3.5	3.5	0.3	3.5
Balanced valve Maximal ΔP	PTFE	103.4	103.4	95.6	95.6	31.2	95.6
	graphite	103.4	103.4	93.4	93.4	30.4	93.4

Selection example

Control valve	DN150 KE43 2-port valve
Maximum ΔP	8 bar
Electrical supply	220 Vac
Control signal	4 - 20 mA
Actuator selected	AEL56411JXA
Positioner required	AEL5961
Valve adaptor	EL5955
Mounting flange	EL5974

Please note:

For further product specific data of the actuator, see the following Technical Information sheets:

- TI-P358-25 for the **AEL5**.
- or
- TI-P358-23 for the **AEL6**.

