

## HQ-008 to HQ-300



### Overview

The HQ electric valve actuator from the Korean electric actuator manufacturer HKC offers a robust and reliable aluminium housed electric actuator ideal for ball valves, butterfly valves, plug valves and dampers. Durability is built in with a dry polyester powder coated hard anodised aluminium housing.

The HQ range offers a choice of options that provide local control, modulating control and industrial rechargeable battery back-up failsafe function, plus an option to create a fireproof actuator.

Versions cover suitability for use in either safe and flameproof (Exd) areas.

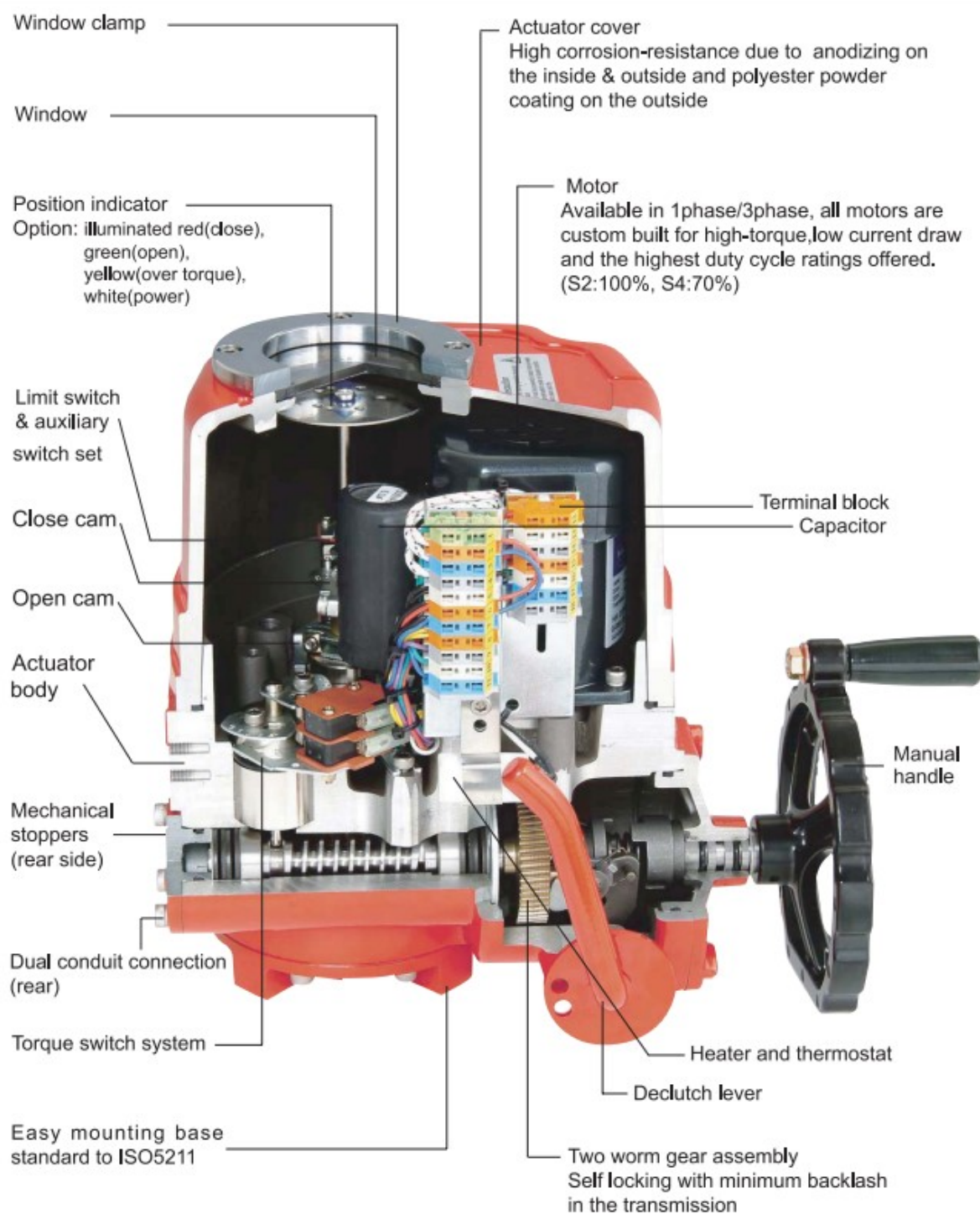
### HQ Electric Actuator Standard Specifications

Voltage range	Low voltage version High voltage version (1 ph) High voltage version (3ph)	24V AC, 24VDC 110V, 220V AC 380, 440V AC
Duty Rating (on-off)		S2, 100% , Max 30 min
Duty Rating (Modulating)		S4, 40-70%, Max 300-1600 starts/hr (option 100%)
IP Rating		IP67 (IEC 60529), NEMA 4, 4X & 6
Motor switches		2 x SPDT 250VAC 16A rated
Additional switches		2 x SPDT 250VAC 16A rated (not HQ008/10)
Torque switches		2 x SPDT 250VAC 16A rated (not HQ008/10)
Emergency hand operation		Yes, hand wheel & declutchable mechanism
Self locking		By double worm gearing
Mechanical stops		2 externally adjustable
Space heater		10W Thermostatic heater
Cable entries		2 x 3/4"
Grease		Moly (EP)
Stall protection		Thermal motor protection
Operating temperature		Open 150C ±5C, Close 97C ±5C
Ambient temperature		-20C to + 70C (Flameproof -20C to +60C)
Ambient humidity		90% max RH (non-condensing)
Vibration		X Y Z 10g, 0.2-34Hz, 30 mins
External coating		Anodised aluminium, dry Polyester powder coated

### How this HQ electric 1/4 turn valve actuator works (on-off)

Electrically operated valves are driven by an electric actuator containing a motor and gearbox. On receipt of a continuous voltage signal (not pulse) the motor runs and, via a gearbox in the electric actuator, rotates the valve stem. The motor stops at the desired position (usually 0° or 90°) by an internal cam striking a micro-switch. The valve actuator remains in this position, with the voltage still applied continuously, until switched and a continuous voltage reversing signal (not pulse) is applied, which runs the motor in the opposite direction, reversing the rotation until a separate internal cam strikes a separate micro-switch and stop the motor. The HQ actuator is designed to have the external power continuously applied, and power should not be switched off when end of travel is achieved.

## HQ-008 to HQ-120 CONSTRUCTION



## PERFORMANCE

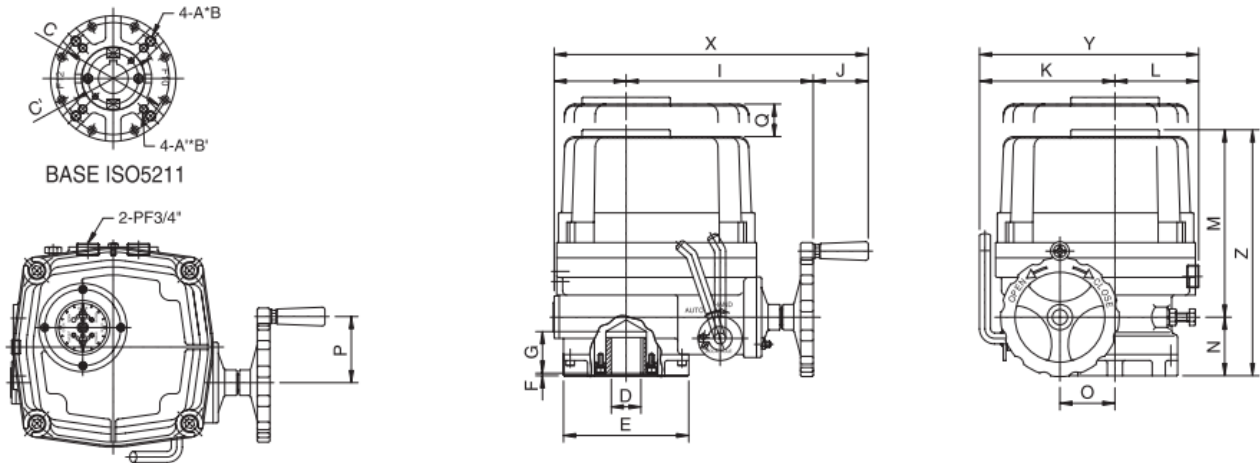
HQ (MODEL)	Max. output torque	Operating time(sec.) 50/60Hz	Mounting bore size	Rated current (A), (50/60Hz)								Duty rate	No. of handle turn	Weight
	kgf.m	90	Ø mm	DC	AC, 1 phase, 50/60 Hz				AC, 3 phase, 50/60 Hz					
				24	100	110	200	220	380	440	460	S4(%)	N	Kg
HQ-008	8	16/13	20	3.7	1.3/1.3	1.2/1.1	0.7/0.6	0.6/0.6	0.2/0.3	0.6/0.4	NA	70	10	7
HQ-010	10	20/17	20	4.0	1.3/1.3	1.2/1.1	0.7/0.7	0.7/0.6	0.2/0.3	0.6/0.4	NA	70	10	7
HQ-015	15	25/21	22	5.3	2.4/2.2	2.1/2.0	1.1/1.1	1.0/1.0	0.6/0.4	0.6/0.4	0.6/0.4	70	11	17
HQ-020	20	25/21	22	6.5	2.5/2.3	2.2/2.1	1.2/1.2	1.1/1.1	0.7/0.5	0.6/0.4	0.6/0.4	70	11	17
HQ-030	30	31/26	35	8.6	2.3/2.7	2.1/2.4	1.1/1.4	1.0/1.3	0.6/0.5	0.4/0.3	0.4/0.3	70	13.5	22
HQ-050	50	31/26	35	12.8	3.6/4.6	3.3/4.2	1.9/2.1	1.7/1.9	0.9/0.8	0.8/0.5	0.7/0.5	70	13.5	23
HQ-060	60	31/26	35	NA	3.8/4.9	3.4/4.4	2.1/2.3	1.9/2.0	1.0/0.9	1.4/0.9	1.3/0.9	70	13.5	23
HQ-080	80	37/31	45	NA	6.0/6.3	5.4/5.7	2.9/3.1	2.6/2.8	1.3/1.0	1.7/0.9	1.6/0.9	70	16.5	29
HQ-120	120	37/31	45	NA	7.2/7.6	6.5/6.9	3.1/3.3	2.8/3.0	1.5/1.1	1.8/1.0	1.7/0.9	70	16.5	29
HQ-200	200	37/31 <sup>(1)</sup>	65	NA	6.0/6.3	5.4/5.7	3.4/3.3	3.1/3.0	1.4/1.0	1.7/1.0	1.6/0.9	50	49.5	75
HQ-300	300	112/93	65	NA	7.2/7.6	6.5/6.9	3.1/3.3	2.8/3.0	1.5/1.1	1.8/1.0	1.7/0.9	50	49.5	75

Note (1) Operating times at 100 & 110 Vac 1 phase of HQ-200 are 112/93 (50/60 Hz) (2) Option Speed & Torque are able to change from standard

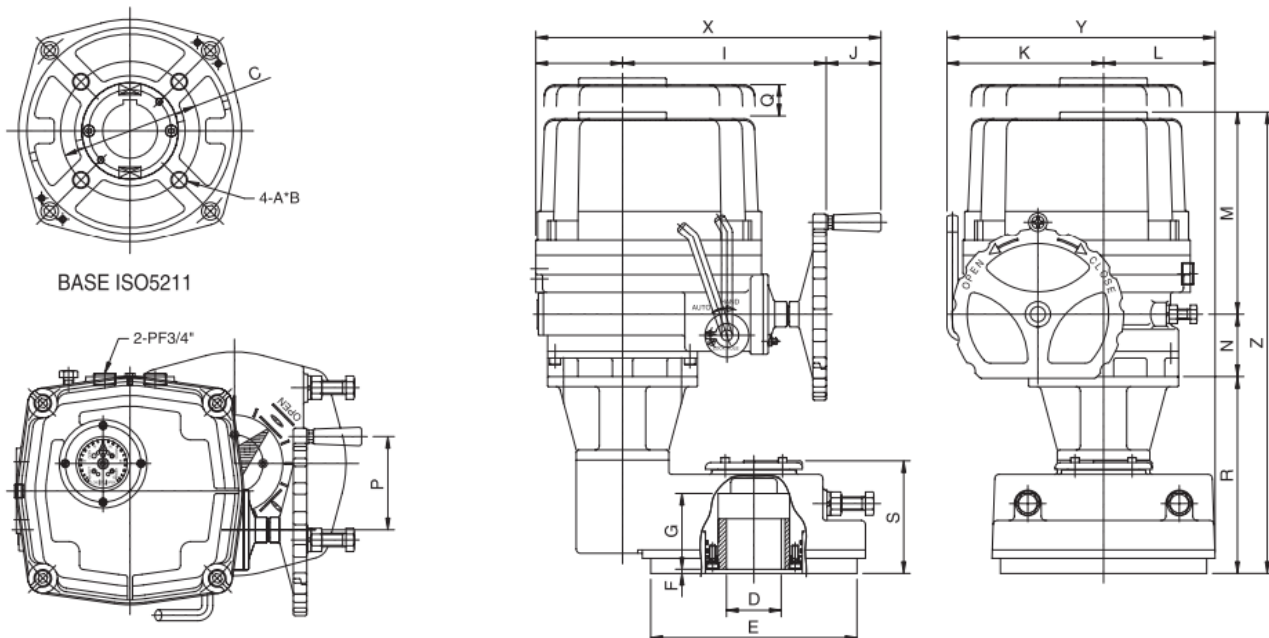
## OPTIONS

EXTB	Dust ignition proof -20~60°C (Ex tb III C 135°C Db)	HQ-series
EXD	Explosion proof enclosure actuator -20°C ~ +60°C (Ex d IIB T4 Gb)	HQ-series
WTA	Watertight enclosure actuator (IP68 10m 72hr)	HQ-series
PIU	Potentiometer unit (0~1kΩ)	HQ-series
PCU	Proportional control unit (input, output 0~10V DC, 4~20mA DC)	HQ-series
ATS	Additional torque switches (SPDT x 2ea 250V AC 10A rating)	except HQ-008/010
LCU-B	Integral control (LCU + IMS + phase protect indicator)	except HQ-008/010
LCU-C	Digital display control (LCU + IMS + auto phase discriminator)	except HQ-008/010
CPT	Current position transmitter (output 4~20mA DC)	HQ-series
EXT	Extension angle 120°, 180°, 270° turn	except HQ-200, 300
RBP	Rechargeable battery backup	HQ-008/010, 015, 020, 030
DCM	DC motor (24V DC)	HQ-008/010, 015, 020, 030
ADCM	Multi AC/DC 24V(integral)	HQ-008/010, 015, 020, 030
LPA	Lever plate actuator	except HQ-008/010
SLU	Signal lamp unit (white-power on, red-open, green-close, yellow-over torque)	except HQ-008/010
FPA1	Fire proofing actuator 1050 ± 5°C / 50min	Engineering consult in advance
FPA2	Fire proofing actuator 250 ± 5°C / 150min	Engineering consult in advance
SPD	Surge protection device (Max1.5kW)	

## HQ-008 to HQ-120 ELECTRIC ACTUATOR DIMENSIONAL DRAWING



## HQ-200 to HQ-300 ELECTRIC ACTUATOR DIMENSIONAL DRAWING



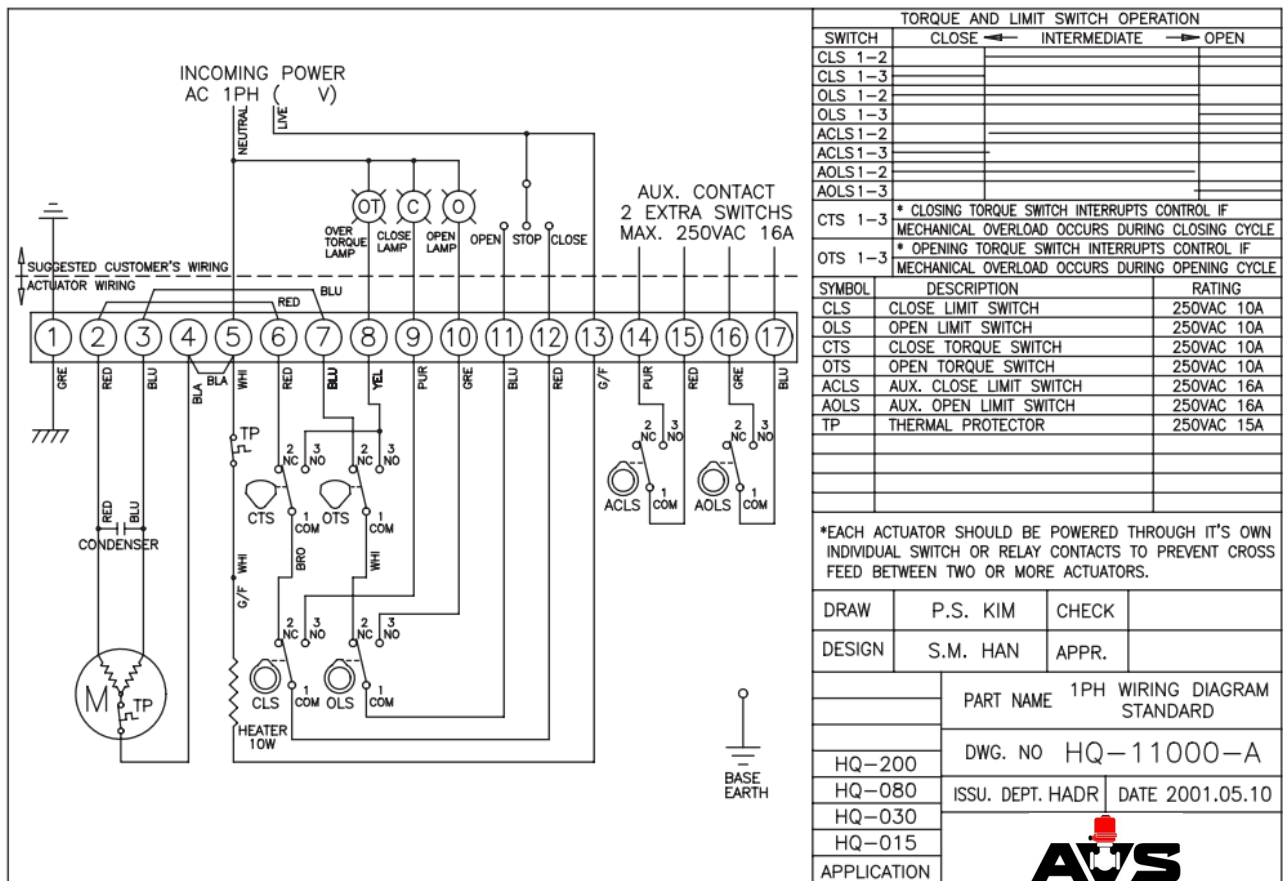
### HQ-008 to HQ-3000 ELECTRIC ACTUATOR DIMENSIONS

Model	Base ISO 5211 φ C	A B	D (max)	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	X	Y	Z
HQ008	F07 φ 70	M8 12	20	88	3	32	50	157	51	100	70	182	53	40	60	120	—	—	258	170	235
HQ010	F07 φ 70	M8 12	20	88	3	32	50	157	51	100	70	182	53	40	60	120	—	—	258	170	235
HQ015	F07/F10 φ 70 φ 102	M8/M10 12/15	22	125	3	42	73	200	65	142	87	200	68	54	78	160	—	—	338	229	268
HQ020	F07/F10 φ 70 φ 102	M8/M10 12/15	22	125	3	42	73	200	65	142	87	200	68	54	78	160	—	—	338	229	268
HQ030	F10/F12 φ 102 φ 125	M10/M12 15/18	35	148	3	49	82	221	65	160	99	221	69	65	78	180	—	—	368	259	290
HQ050	F10/F12 φ 102 φ 125	M10/M12 15/18	35	148	3	49	82	221	65	160	99	235	69	65	78	180	—	—	368	259	304
HQ060	F10/F12 φ 102 φ 125	M10/M12 15/18	35	148	3	49	82	221	65	160	99	235	69	65	78	180	—	—	368	259	304
HQ080	F12/F14 φ 125* φ 140	M12/M16 18/24	45	178	3	57	103	242	65	186	111	256	74	78	110	210	—	—	410	297	330
HQ120	F12/F14 φ 125 φ 140	M12/M16 18/24	45	178	3	57	103	242	65	186	111	256	74	78	110	210	—	—	410	297	330
HQ200	F14*/F16 φ 140* φ 165	M16*/M20 24*/30	65	245	5	90	103	242	65	186	133	256	74	78	110	210	233	133	410	319	563
HQ300	F14*/F16 φ 140* φ 165	M16*/M20 24*/30	65	245	5	90	103	242	65	186	133	256	74	78	110	210	233	133	410	319	563

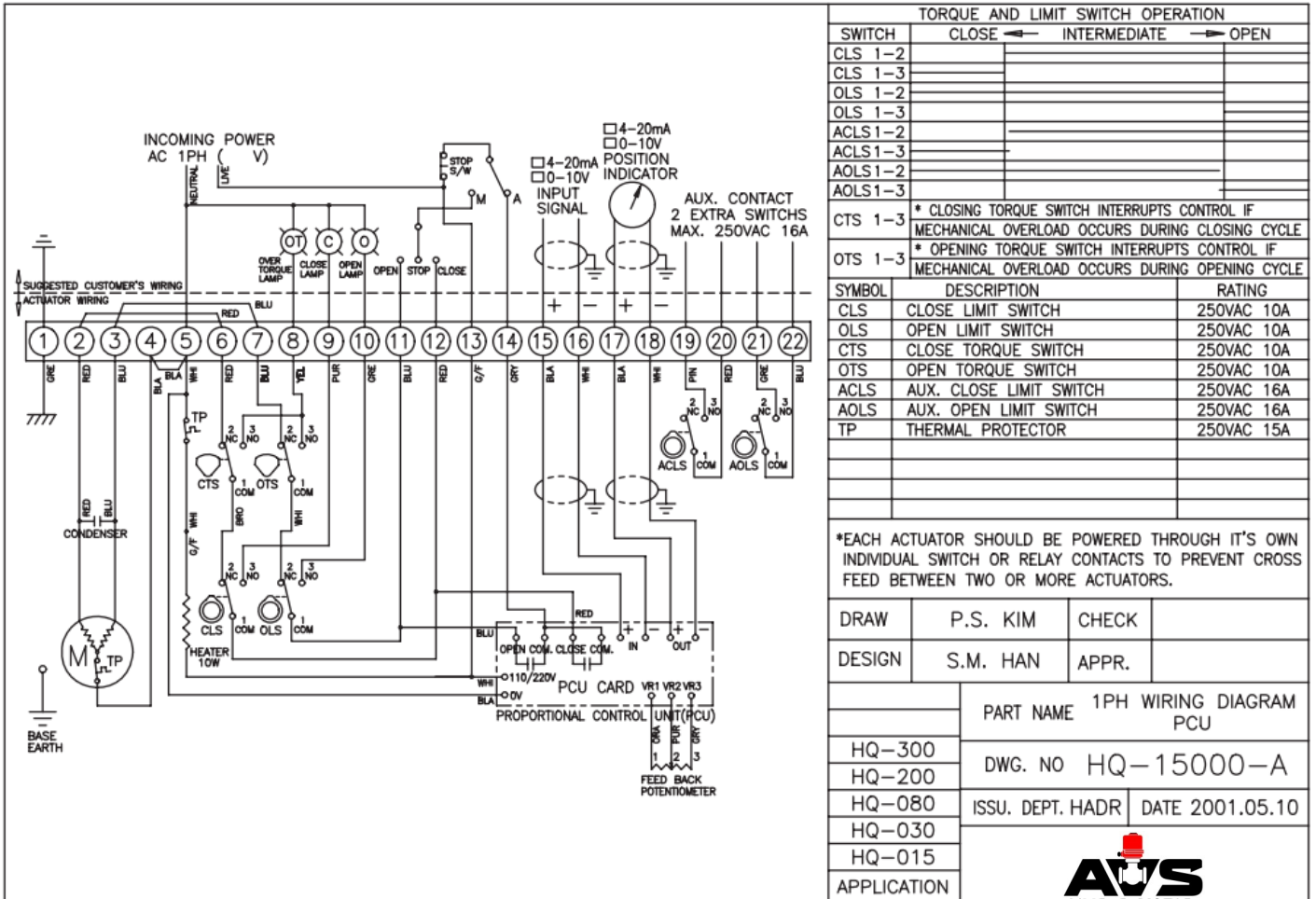
\* F14 Drilled on request

### ON-OFF WIRING (1ph 50/60Hz)

Power open, power close, stays put on loss of external power.



### MODULATING WIRING (1ph 50/60Hz)



## LOCAL CONTROL UNIT (Optional)

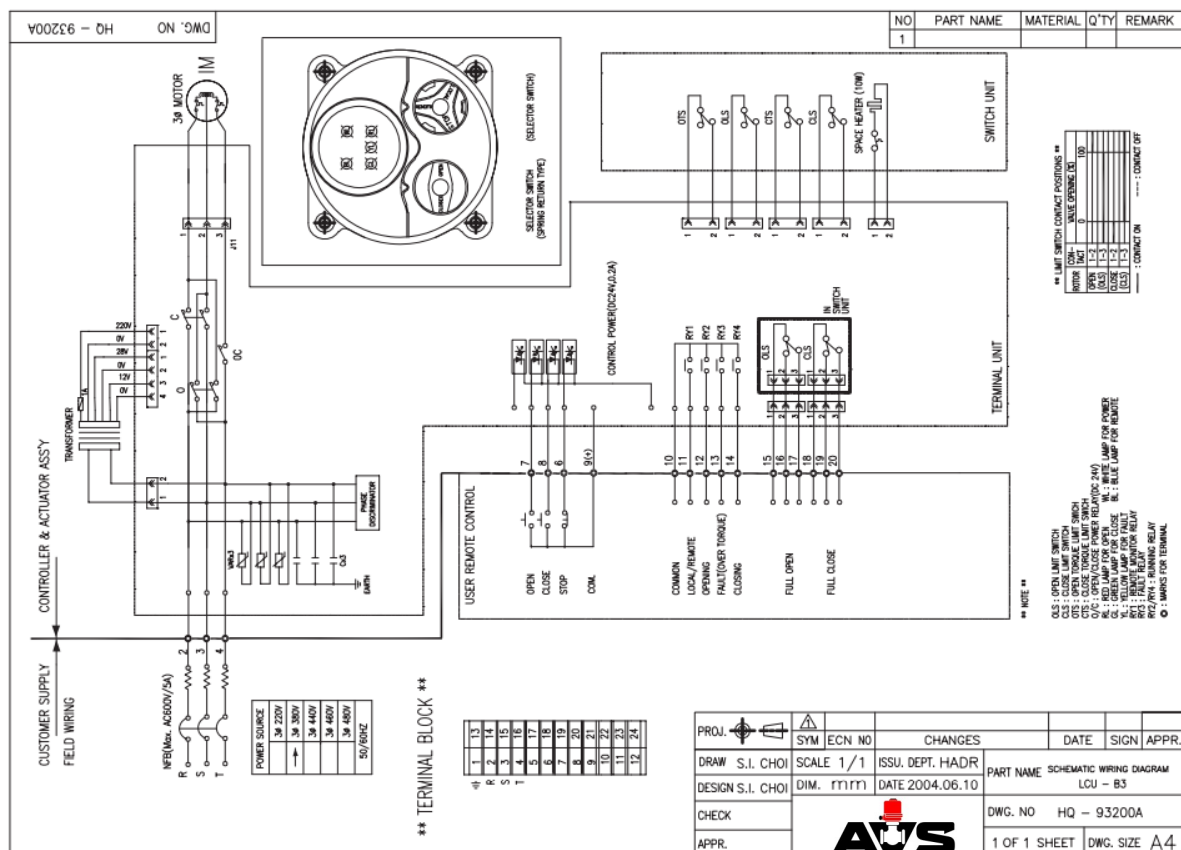
- Light, compact & Integrated design (IMS, Local/Remote control)
- Wide range of electric power application
- 1  $\phi$  AC 110~220V 50/60Hz
- 3  $\phi$  AC 220V~460V 50/60Hz
- Phase protect monitoring by LED in case of wrong wiring
- Easy application for HQ-series actuators
- Various option available (Duty cycle:70%)

### LED lamp signal

White	○	: Power
Blue	●	: Remote
Yellow	●	: Fault
Red	●	: Open/ Opening
Green	●	: Close/ Closing

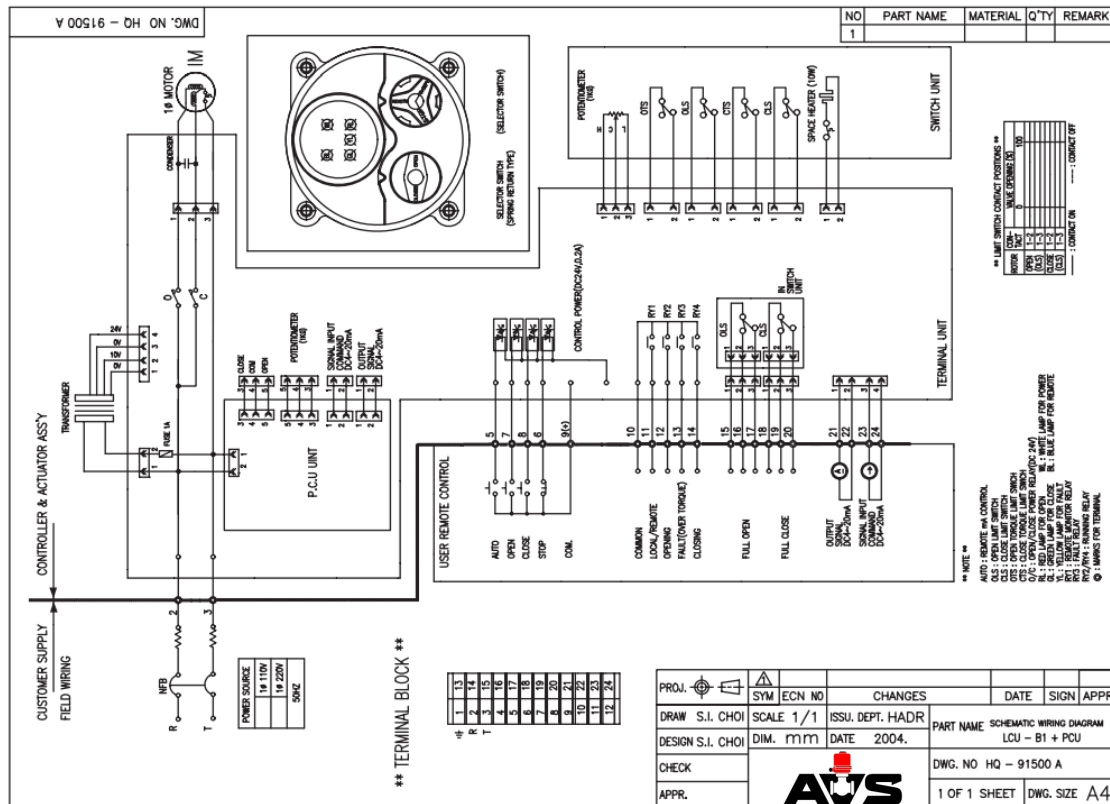


## ON OFF WIRING WITH LOCAL CONTROL UNIT (3ph 50/60Hz)

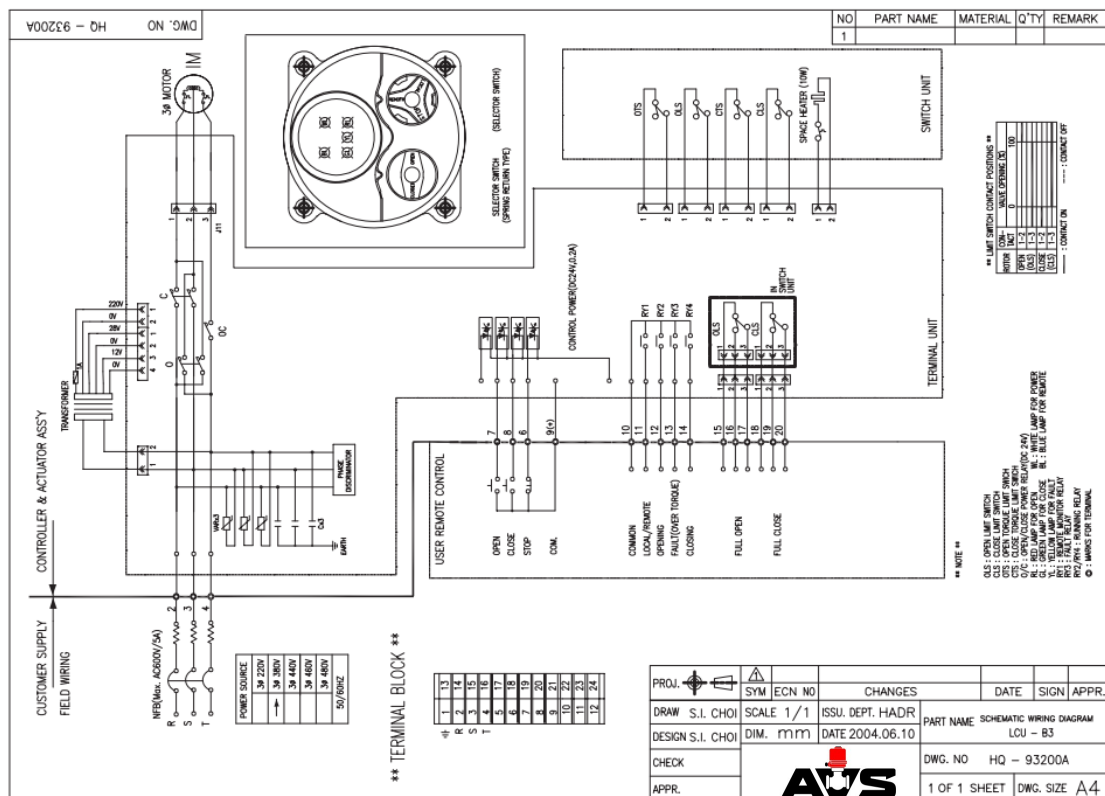


Available with actuator function: **POWER OPEN - POWER CLOSE, FAILSAFE, MODULATING**

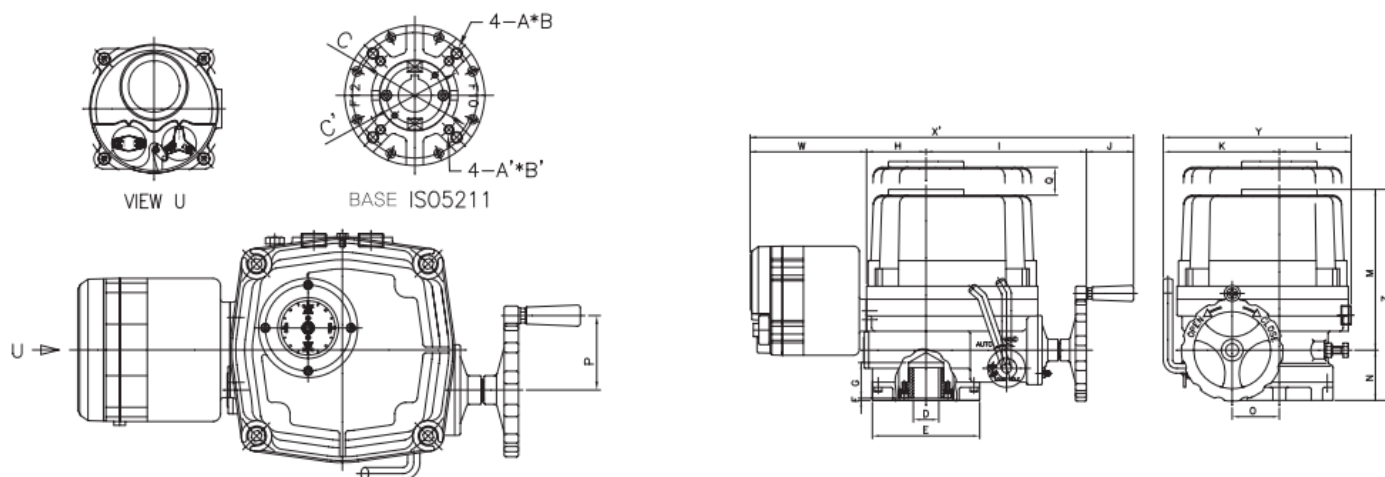
## MODULATING WIRING WITH LOCAL CONTROL UNIT (1ph 50/60Hz)



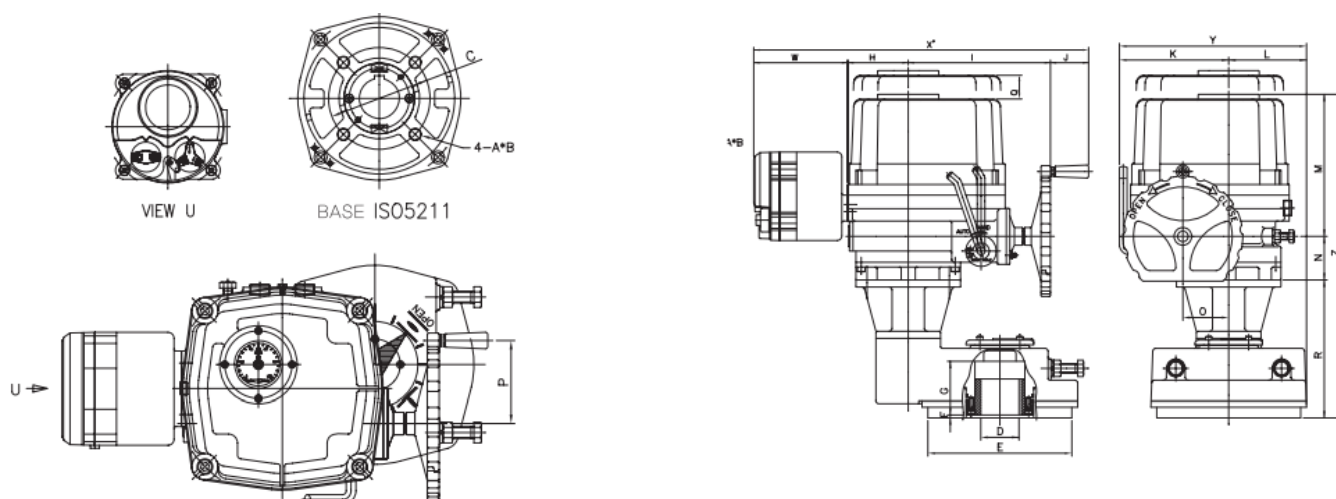
## MODULATING WIRING WITH LOCAL CONTROL UNIT (3ph 50/60Hz)



### DIMENSIONAL DRAWING WITH LOCAL CONTROL UNIT (HQ-015 to HQ-120)



### DIMENSIONAL DRAWING WITH LOCAL CONTROL UNIT (HQ-200 to HQ-300)

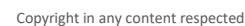


Model	Base ISO5211	A	D (max)	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	X	Y	Z
	Ø C	B																				
HQ015	F07/F10	MBM10	22	125	3	42	73	200	65	142	87	200	68	54	78	160	-	-	160	498	229	268
	Ø70/Ø102	12/15																				
HQ020	F07/F10	MBM10	22	125	3	42	73	200	65	142	87	200	68	54	78	160	-	-	160	498	229	268
	Ø70/Ø102	12/15																				
HQ030	F10/F12	MI QMI 2	35	148	3	49	82	221	65	160	99	221	69	65	78	180	-	-	160	528	259	290
	Ø102/Ø125	15/18																				
HQ050	F10/F12	MI QMI 2	35	148	3	49	82	221	65	160	99	235	69	65	78	180	-	-	160	528	259	304
	Ø102/Ø125	15/18																				
HQ060	F10/F12	MI QMI 2	35	148	3	49	82	221	65	160	99	235	69	65	78	180	-	-	160	528	259	304
	Ø102/Ø125	15/18																				
HQ080	F12/F14	MI 2MI 6	45	178	3	57	103	242	65	186	111	256	74	78	110	210	-	-	160	570	297	330
	Ø125/Ø140	18/24																				
HQ120	F12/F14	MI 2MI 6	45	178	3	57	103	242	65	186	111	256	74	78	110	210	-	-	160	570	297	330
	Ø125/Ø140	18/24																				
HQ200	F14*/F16	MI 6*/M20	65	245	5	90	103	242	65	186	133	256	74	78	110	210	233	133	160	570	319	563
	Ø140*/Ø165	24*/30																				
HQ300	F14*/F16	MI 6*/M20	65	245	5	90	103	242	65	186	133	256	74	78	110	210	233	133	160	570	319	563
	Ø140*/Ø165	24*/30																				

### RECHARGEABLE BATTERY BACK UP (Option)

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- A red fire pump assembly. On the left is a control panel with a black circular indicator showing 'STOP', 'POWER', 'FAULT', and 'CLOSE OPEN' with corresponding buttons. Below the panel are two valves with handles. The main pump body is red and cylindrical, with a large black handwheel on the right side. The number '2070' is visible on the pump body.

## ON-OFF BATTERY BACK-UP WIRING (AC 1ph 50/60Hz)



**Available with actuator function: POWER OPEN - POWER CLOSE, FAILSAFE, MODULATING**

## DIGITAL DISPLAY CONNTROL UNIT (Option)

- Light, Compact & Integrated design
- Wide range of electric power application  
(AC 220V~AC460V/3-phase, No Fuse Break Max.AC600V/5A)
- Built-in auto phase discriminator (Easy & convenient wiring)
- Digital indicator with number, bar graph & literature
- Seperate terminal chamber  
(Reliable against water, vibration, temp, etc)
- Easy application for HQ-series actuators
- Various option available



## MODULATING CONTROL WITH DIGITAL DISPLAY WIRING (AC 3ph 50/60Hz)

