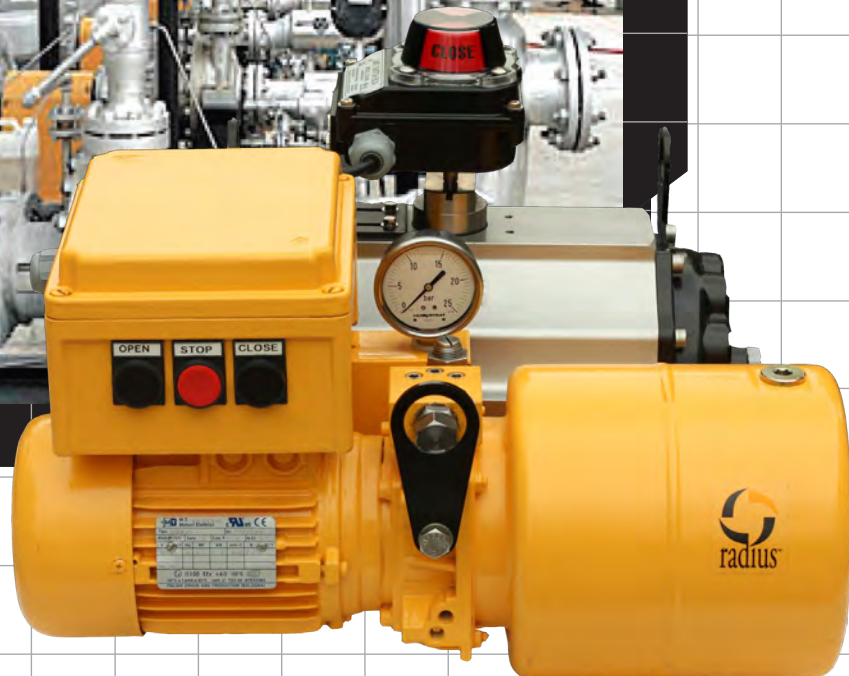




KEH SERIES  
ELECTRO HYDRAULIC  
ACTUATORS

radius



**SIL3**  
Safety Integrity Level



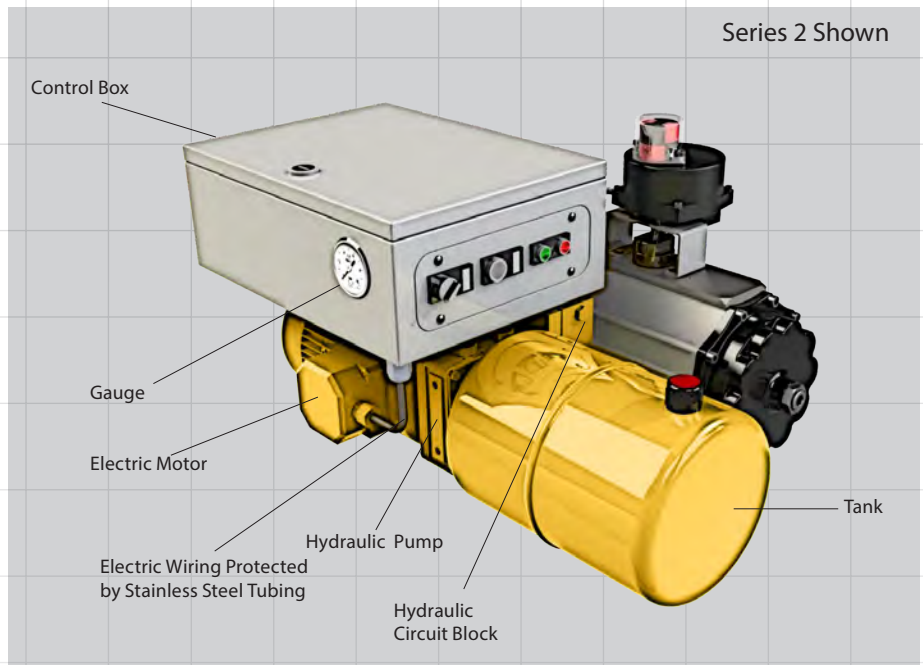
The Radius KEH series electro hydraulic actuators are self contained 90° spring return electric actuators. A specially designed hydraulic block is machined to allow flow in and out of the actuator and completely eliminates the need for hoses. The unit is available in spring end torques to 16,900. There are two versions of the KEH Electro - Hydraulic actuator, the Series 1 and the Series 2.

The Series 1 is a simple on off version. On loss of power the unit fails to the desired open or closed valve position. When power is reinstated the the actuator returns the valve to the powered position. There are simple controls at the actuator that allows for local opening and closing of the actuator.

The Series 2 unit comes with an on board programmable relay that allows for programing many functions including partial stroke tests, the position of the actuator after power reinstatements and many other functions. The relay can be reprogramed or changed via the internet. It can also be ordered with a special circuit to allow for modulating a valve or damper with a 4-20ma signal.

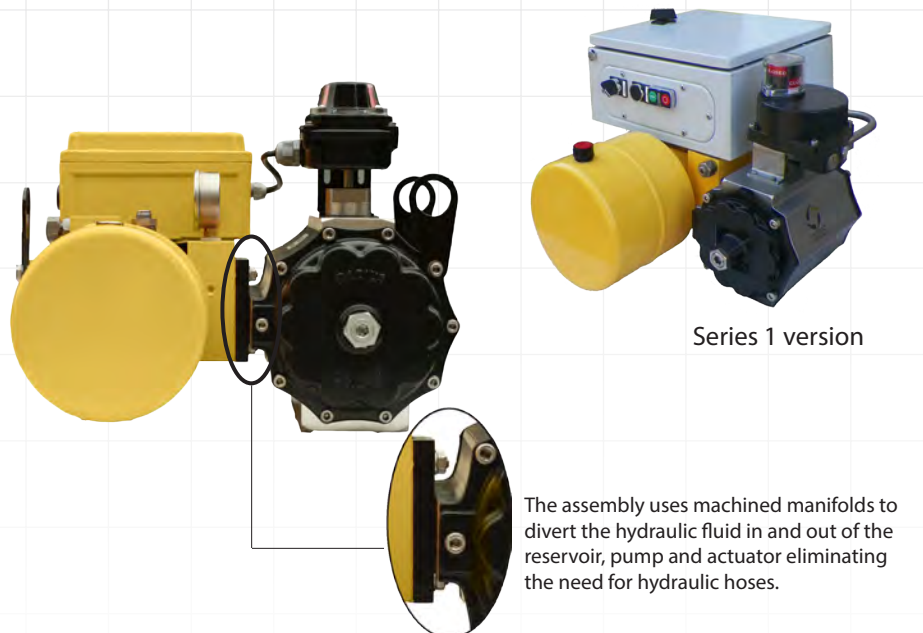
## FEATURES AND BENEFITS

- Mounting surfaces according to ISO 5211 and VDI/VDE 3845
- ISO 5211 square drive shaft.
- IP 66 Electrical enclosure standard.
- Standard NEMA 4, 4x. Wiring from the motor to control box protected with stainless steel tubing.
- The circuit's pressure remains stable in spite of wide ambient temperature swings.
- Closed loop Hydraulic system that environment safe and does not leak to atmosphere.
- Multiple combination of springs allow a wide range of torques from one model.
- Inner cylinder has been completely honed for long service life.

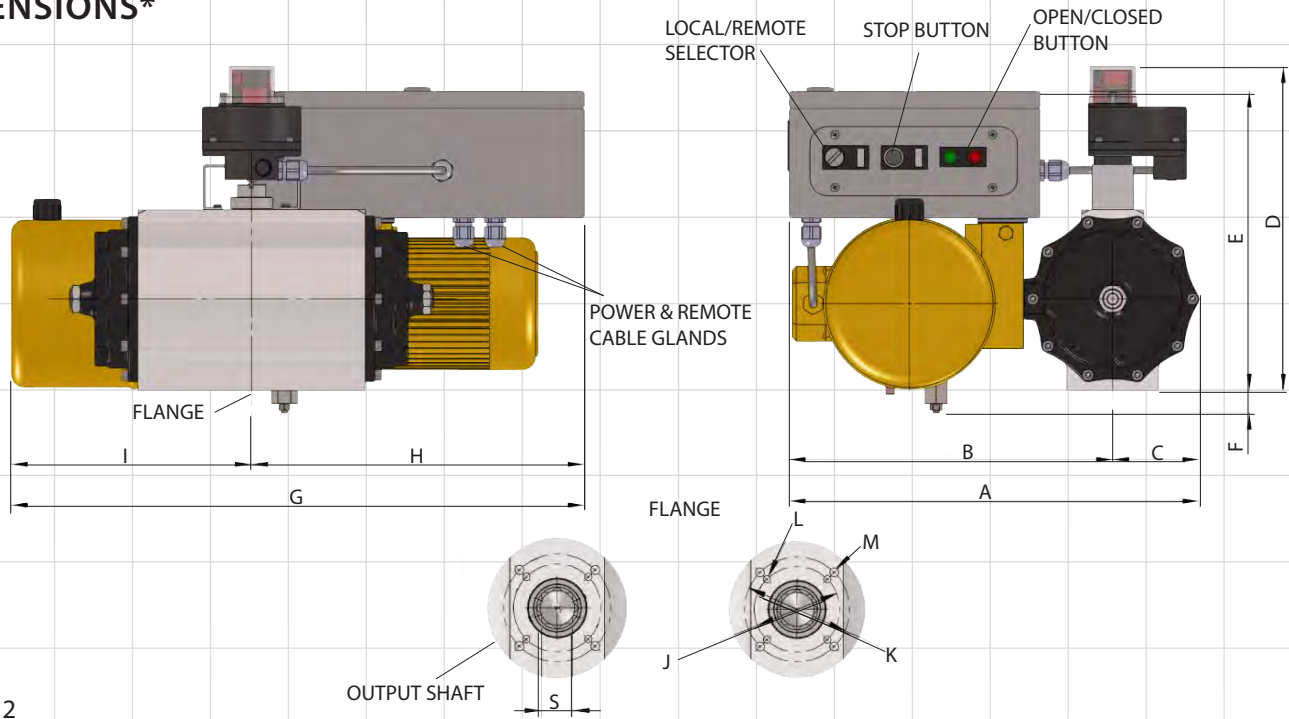


## OPTIONS

- NEMA 7 and Atex
- Explosion proof optional for zones 1 and 2.
- For larger torques, scotch yoke electro hydraulic actuators are available.
- Low temperature versions down to -58F°
- Stainless steel drive shaft.
- Special coatings for very high corrosive environments.
- Actuators are easily fitted with declutchable gearboxes as manual override.
- Fast closing time.
- Special applications upon request.



## DIMENSIONS\*



\*Series 2

ACTUATOR	A	B	C	D	E	F	G	H	I	J	K	L	M	□ S	ISO5211	TANK	WEIGHT
KEH-030	17.7	14.4	3.3	13	13.2	2.2	23.1	14.7	8.5	2.76	4.02	5/16-18	3/8-16	0.87	F7-F10	305.1	98
KEH-040	17.7	14.4	3.3	13.4	13.2	2.2	23.1	14.7	8.5	2.76	4.02	5/16-18	3/8-16	1.06	F7-F10	305.1	105
KEH-060	18.7	15	3.7	14.6	13.8	1.7	23.4	14.8	8.6	2.76	4.02	5/16-18	3/8-16	1.06	F7-F10	305.1	124
KEH-100	19.3	15.3	4	15.2	14	1.5	27	15.7	11.3	4.02	4.92	3/8-16	1/2-13	1.42	F10-F12	488.1	134
KEH-140	20.2	15.7	4.4	16.3	14.6	0.9	29	13.7	16	4.92	-	3/8-16	1/2-13	1.42	F10-F12	488.1	149
KEH-200	20.2	15.7	4.4	16.3	14.6	0.9	32.2	15.7	16.5	5.51	-	5/8-11	-	1.81	F14	732.2	196
KEH-250	23	17	6.1	18.9	16	-	32.2	13.7	18.6	5.51	-	5/8-11	-	1.42	F14	732.2	212
KEH-370	23	17	6.1	18.9	16	-	32.5	16.2	16.3	6.5	-	3/4-10	-	1.81	F16	1464	295
KEH-500	27	19.2	7.8	23.3	18.2	-	40.9	15.6	25.3	6.5	-	3/4-10	-	2.17	F16	1830	443

Notes: All dimensions are in inches / Drawing is not scaled / Tank volume in cubic inches / Weights are in lbs.

## TORQUES

ACTUATOR	SPRING RETURN TORQUE (IN. LBS.)		HYDRAULIC TORQUE (IN. LBS.) 116 PSI	
	0°	90°	0°	90°
KEH-030	797	1257	1788	1328
KEH-040	1089	1938	2788	1938
KEH-060	1637	2699	4399	3337
KEH-100	2390	4248	6567	4709
KEH-140	2859	4992	8585	6452
KEH-200	3903	6665	11789	9028
KEH-250	4735	8231	15206	11710
KEH-370	8275	15719	26650	19206
KEH-500	16082	30349	40297	26030

Notes: 25% safety is recommended.

## OPERATION TIMES

ACTUATOR	OIL VOLUME PER STROKE (CUBIC INCHES)	CLOSING BY SPRING	
		OPENING (SEC)	CLOSING (SEC)
KEH-030	69	10	4
KEH-040	105	14	6
KEH-060	161	20	9
KEH-100	240	22	14
KEH-140	287	26	17
KEH-200	384	35	22
KEH-250	468	38	23
KEH-370	863	45	33
KEH-500	1282	66	49

Notes: Times calculated with valve and environment temperature at 68°F.

## ELECTRIC DATA

STANDARD ELECTRIC MOTOR				
ACTUATORS	POWER (W)	380V	230V	110V
		3-PHASE	3-PHASE	1-PHASE
KEH-030 ~ KEH-140	0.37	X	X	X
KEH-200 ~ KEH-500	0.5	X	X	X

Notes: Motor protection IP66 / Please consult factory for additional voltages.

## HYDRAULIC DATA

STANDARD SOLENOID VALVE SIZE		
KEH-030 ~ KEH-100	KEH-030 ~ KEH-100	KEH-030 ~ KEH-100
3/4" 16UNF	7/8" 14UNF	1-5/16" 12UNF
Max flowrate 10.57 GPM	Max flowrate 18.49 GPM	Max flowrate 39.63 GPM

- Pump: Gear Pump
- Pump Pressure: Pre-adjusted at 116 PSI. Max 145 PSI controlled by mechanical relief valve
- Internal circuit pressure: Max pressure 174 PSI / Min. pressure 73PSI. Both are controlled mechanically
- Oil type: ISO Viscosity, GRADE 18
- Temperature Range: From -51°F to 185°F.
- Hydraulic Actuator according to: ISO9001:2008, IEC 61508:2010 (SIL3), LOM 05ATEX6032 X and EPED 97/23/EC point 3.10.
- Standard Rotation: Counter-clockwise to open. Reverse rotation available.

Note: Radius reserves the right to make technical and/or dimensional changes without prior notice



Radius L.L.C.  
4922  
Technical Drive  
Milford, MI  
48381  
Phone: 248.685.0773  
Fax: 248.685.0740  
[www.radius-eng.com](http://www.radius-eng.com)