

Control and Shut-Off Valves | Variety of Trim Designs in Different Materials | Electric and Pneumatic Actuators as Standard

Electric Actuators

REact series

www.rtk.de | www.circor.com



REact Product Information

Linear Electric actuators

The robust, maintenance free series of REact electric actuators covers a wide range of actuating forces from 675 lbs to 6744 lbs force. Actuating speeds from 0.38 to 4 inch/min and all standard operating voltages are available, giving the customer an actuator to suit their needs. Many options and accessories are available, including two extra limit switches as standard (for customer feedback). All actuators come with a hand wheel for manual operation.

General

The actuators are manufactured from high quality magnesium aluminum alloy with a polycarbonate cover giving higher strength while being lighter. All the gear wheels are made from steel ensuring optimum performance.

- There are two standard motor variations, giving precise positioning:

Synchronous AC Motor Available in 24, 115 and 230V variations

Brushless DC Motor Comes with integrated 'over force limiter' protecting the valve & actuator Has 4 predefined speeds that can be changed in situ and continuous (24/7) duty cycle

- **All REact actuators** have an ambient temperature range of -4°F to 158°F and Protection Rating: NEMA 4X (IP65) is standard. They are even available in a special Marine Air resistant variation, ensuring they can cope with the worst that nature can throw at them

- They are NRTL certified (according to UL and CAN/CSA) for the North American market.

- All connections are via plug and socket connectors making it a lot easier to wire in.

Options

There are numerous options available for the REact series, including:

- Feedback potentiometer, giving an ohm output signal
- REtrans feedback transducer, either 2 or 4 wire giving a mA or V output signal
- REpos Digital Valve Positioner available with or without feedback module (mA or V control signals)
- Internal heater for installations where condensation build up is possible
- Power Supply Unit (Input 90 – 264V AC / Output 24V DC) for use with BLDC motors

All the above accessories can easily be retrofitted giving maximum flexibility once the actuator has been installed

There is also a TÜV certified Mechanical Fail Closed device, which extends the actuator (closes the valve) on loss of power or if a safety switch (typically installed in the plant) is activated

REact PoP

Unlike other actuators, the React PoP offers two standard system saving features, that allow the actuator to reach a predefined safety end position (open/close). This reduces the risk of system damage if power is lost or a system failure occurs.

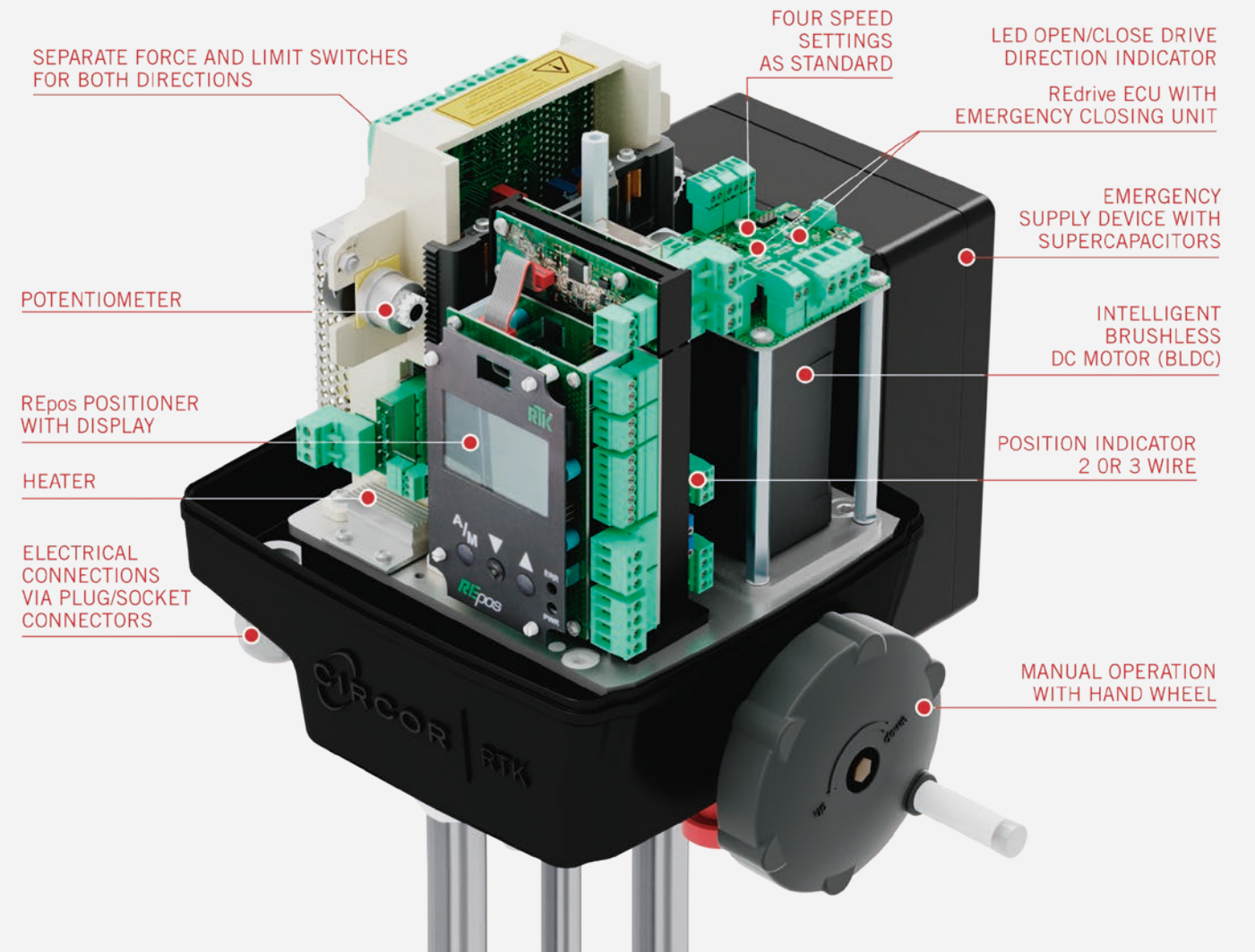
This is done using super capacitors that are tested for over 500 000 cycles and which take less than 60 seconds to regain their full charge when power is restored

Emergency Closing Unit Operates if a system failure occurs and drives the actuator to its predefined safety position

Fail Safe Function Drives the actuator to its predefined safety position if the power supply is lost

REactron

Comes with a single loop PID controller integrated in the actuator cover, removing the need for a separate control cabinet. The controller can accept any typical input signal (mA, V, PT100 and TC) and simply drives the actuator open or closed according to the parameters that are set.





REact

REact 30

Series

REact 30E- 028

REact 30E- 074

REact 30E- 112

REact 30 DC

Electric actuator for control and shut/off valves

- 3-point step control
- Separate force and limit switches for both directions
- Protection rating IP 65 / NEMA 4x
- Valve position indicator
- Manual hand wheel
- Electrical connections via plug/socket connectors
- CE marking

Options:

- Heater
- Potentiometer
- Position indicator, 2 or 3-wire
- REpos Positioner with display
- Bus system (Profibus DP, CANopen)
- Process controller integrated in cover
- Hydraulic system for fail-safe control
- NRTL(Nationally Recognized Testing Laboratory)-Certification for USA & Canada (Documentation: REact 30-8010 NRTL)
- Marine air resistant variant

REact 30 DC with brushless 24 VDC motor technology (REdrive)

- Four speed settings as standard

Options:

- Power pack, input: 90-264 V 50/60 Hz



Data sheet under
<https://www.rtk.de/en-us/Products/Actuators>

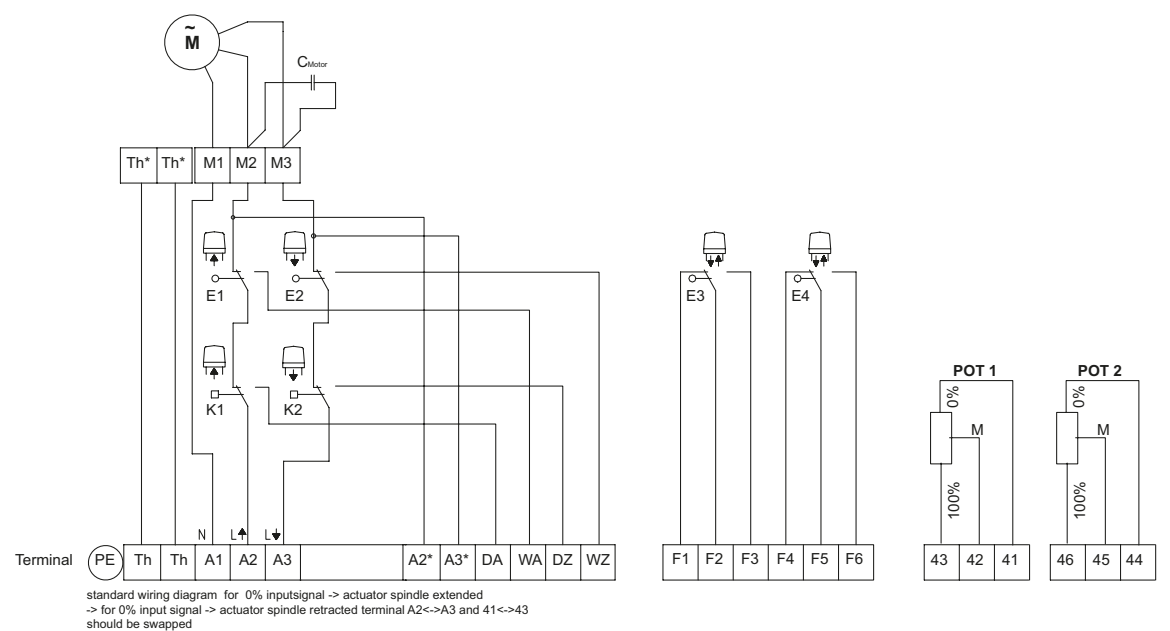
Technical data

*At 60 Hz the speed and power consumption increase by 20 %

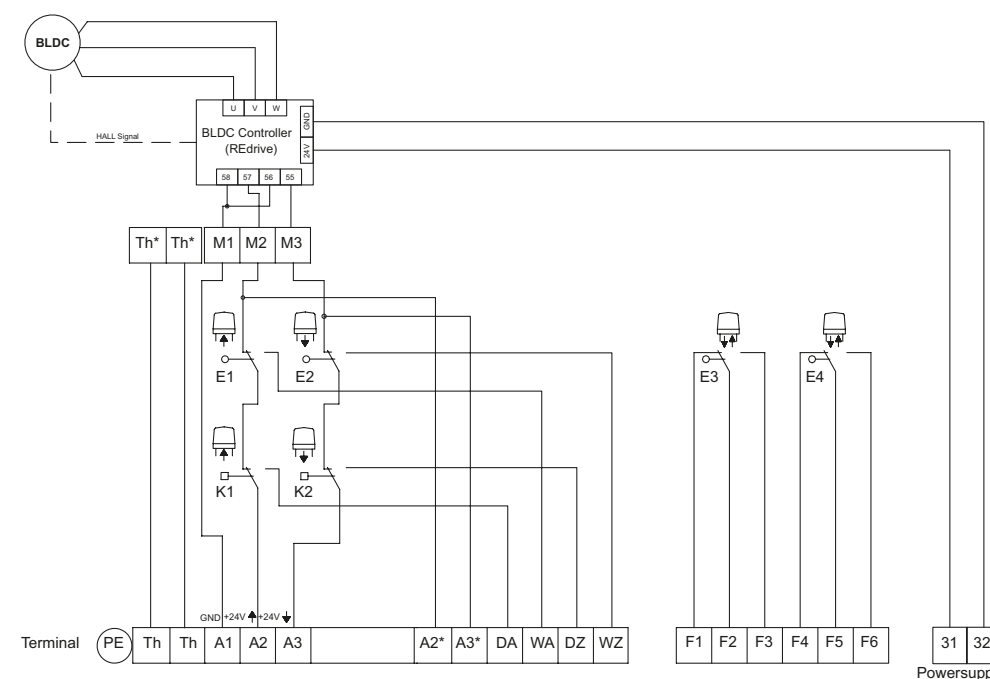
** If power supply (NG2450) is used the ambient temperature range is 14°F to 140°F

Type	REact 30 E			REact 30 DC				
Operating force	629 lbs/F			629 lbs/F				
Closing force	675 lbs/F			675 lbs/F				
Stroke	max. 1 ½ Inch			max. 1 ½ Inch				
Speed	Inch/min	0.66	1.75	2.65	0.47	0.66	1.0	2.0
Power draw		12 VA	27 VA	46 VA	9 W	10 W	13 W	21 W
Motor voltage	24 V, 115 V, 230 V, 50/60 Hz*			24 VDC**				
Isolation class	B			B				
Motor rating	S1- 100%			S1- 100%				
Force Switches	2 (directly wired)			2 (directly wired)				
Limit switches	2 (directly wired)			2 (directly wired)				
Additional Limit Switches	2 (rating 4 A, 250 V)			2 (rating 4 A, 250 V)				
Protection rating	IP 65, DIN EN 60529 / NEMA Type 4X			IP 65, DIN EN 60529 / NEMA Type 4X				
Ambient temperature	-4°F to 158°F			-4°F to 158°F**				
Mounting position	Any (NOT upside down)			Any (NOT upside down)				
Gear lubricant	Divinol Fett F 14 EP			Divinol Fett F 14 EP				
Cable glands	4 x M 20			4 x M 20				
Weight	10 lbs			10 lbs				
Optional Accessories								
Potentiometer		Max. 2	1k, 2k 5k Ohm		Max. 2	1k, 2k 5k Ohm		
Position indicator	REtrans 4W (3-wire) REtrans 2W (2-wire)	Output signal	(0)4 - 20 mA / (0)2 - 10 V	REtrans 4W (3-wire) REtrans 2W (2-wire)	Output signal	(0)4 - 20 mA / (0)2 - 10 V		
REpos / digital positioner with display	REpos	Input signal Output signal	(0)4 - 20 mA / (0)2 - 10 V (0)4 - 20 mA / (0)2 - 10 V	REpos	Input signal Output signal	(0)4 - 20 mA / (0)2 - 10 V (0)4 - 20 mA / (0)2 - 10 V		
REpos with Profibus DP REpos with CAN-Open	available			available				
Heater	12-36 V (3W / 6W) / 110-230V (3 W / 6 W)			12-36 V (3W / 6W) / 110-230V (3 W / 6 W)				
Power Pack (NG2450)				Input: 90-264V 50/60Hz / Output: 24VDC				
Process Controller				Qube (1 channel PID Process Controller)				
NRTL-Certification	see separate document REact 30 – 8010 NRTL			see separate document REact 30 – 8010 NRTL				
Marine air resistant variant	available			available				

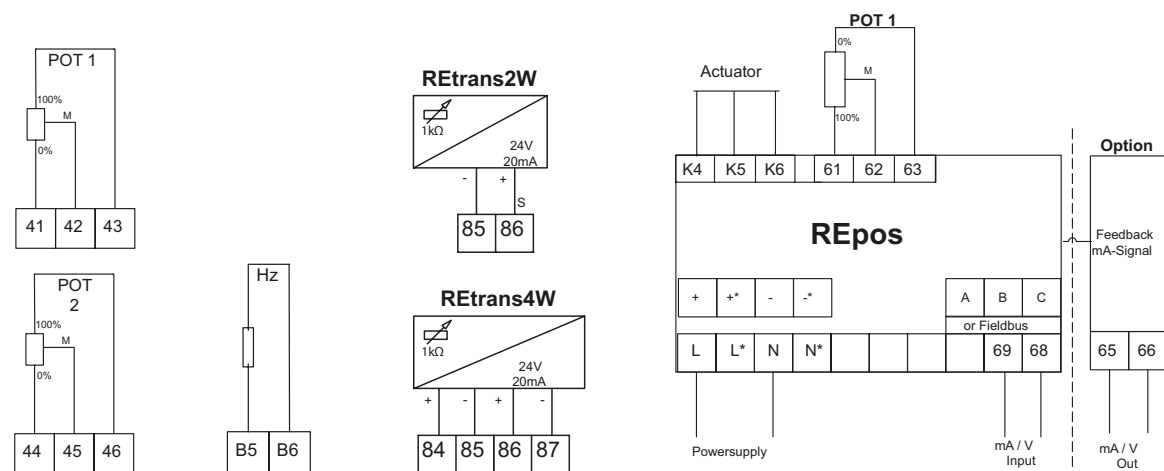
Wiring diagram E



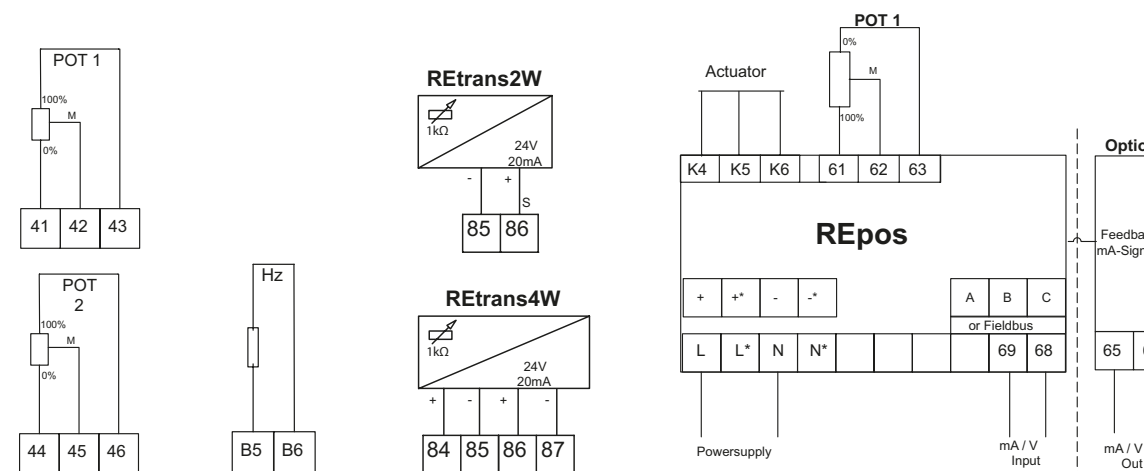
Wiring diagram DC



Options:



Options:



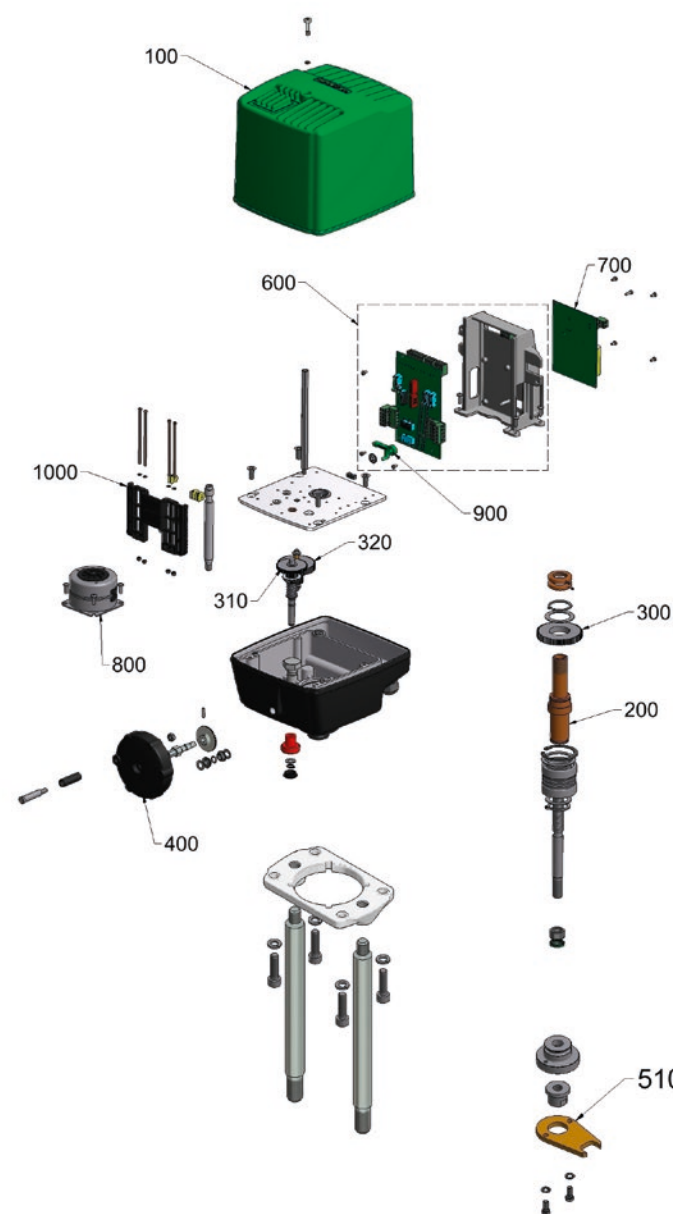
K1	force switch	open direction
K2	force switch	close direction
E1	limit switch	open position
E2	limit switch	close position
E3	limit switch	intermediate position
E4	limit switch	intermediate position

POT	potentiometer
HZ	heater
REpos	Positioner
REtrans	Position indicator

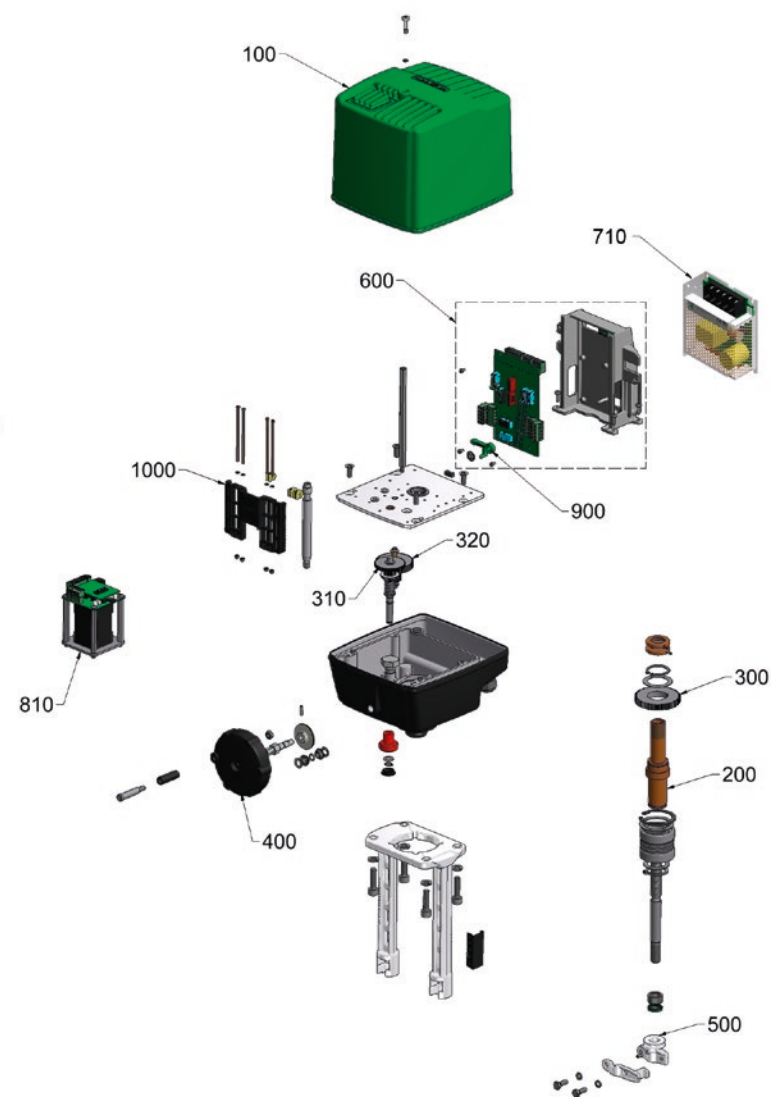
K1	force switch	open direction
K2	force switch	close direction
E1	limit switch	open position
E2	limit switch	close position
E3	limit switch	intermediate position
E4	limit switch	intermediate position

POT	potentiometer
HZ	heater
REpos	Positioner
REtrans	Position indicator

REact 30E

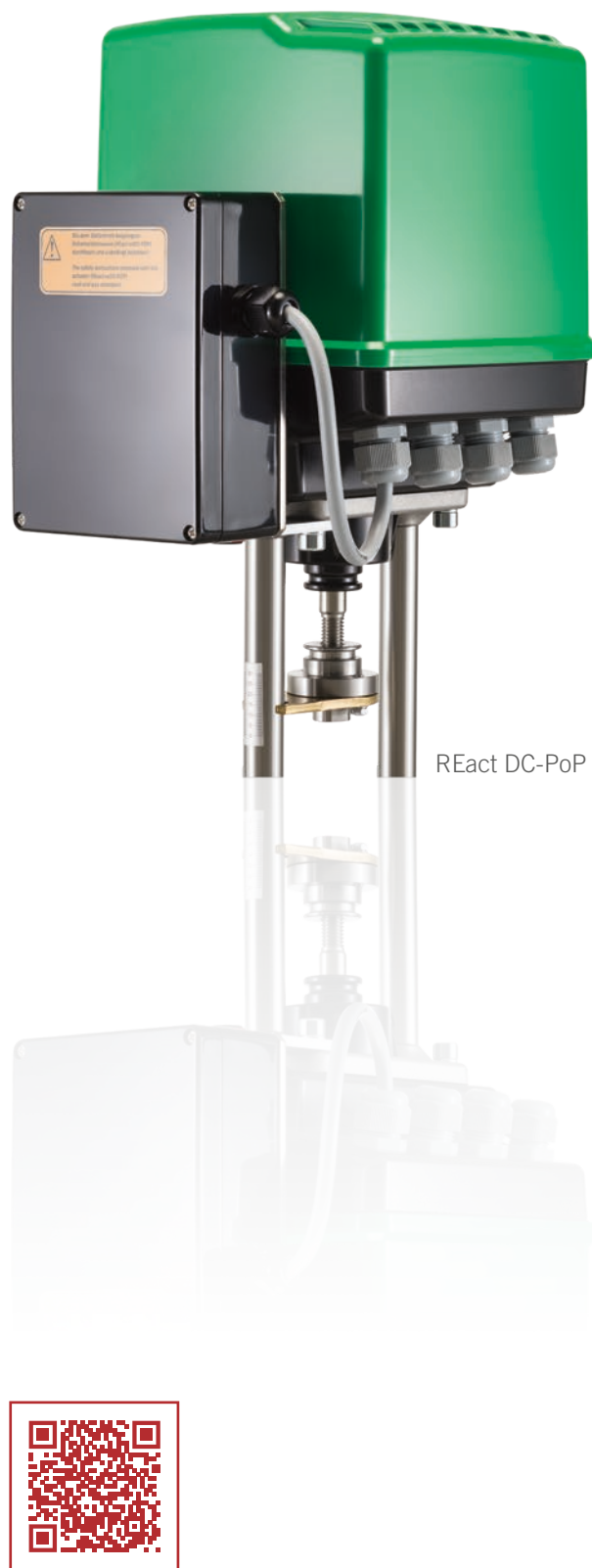


REact 30DC



Spare parts list

Pos	Order no.	Note	
100	CGEHR3000009		Housing–upper part
110	CGEHR3000029	Marine air resistant variant	
200	CMUSR2000009		Spindle nut group
300	CZRAR2000009		Gear-group 0
310	CZRAR2020009	Marine air resistant variant	Gear group 1
320	CZRAR2019009		Gear group 2
320	CZRAR2020009		
320	CZRAR2029009		
400	CRAH30000009		Hand wheel group
410	CRAH30000029		
500	CKUKR1500009	Yoke	Coupling group
510	CKUKR1510009	Pillas	Coupling group
600	CZELR3000009		Main terminal board
700	CPLER201B109	230 V / 0.66 Inch/min.	Motor capacitor circuit board
	CPLER301B209	230 V / 1.75 Inch/min.	
	CPLER301B309	230 V / 2.65 Inch/min.	
	CPLER201D109	115 V / 0.66 Inch/min.	
	CPLER301D209	115 V / 1.75 Inch/min.	
	CPLER301D309	115 V / 2.65 Inch/min.	
	CPLER201G109	24 V / 0.66 Inch/min.	
	CPLER301G209	24 V / 1.75 Inch/min.	
710	CPLER301G309	24 V / 2.65 Inch/min.	Power supply unit
	CNEG15360005	50 W / 24 V / 2,2 A	
800	CMOTR20SB109	230 V / 0.66 Inch/min.	Synchronous-motor group
	CMOTR309B209	230 V / 1.75 Inch/min.	
	CMOTR309B309	230 V / 2.65 Inch/min.	
	CMOTR20SD109	115 V / 0.66 Inch/min.	
	CMOTR309D209	115 V / 1.75 Inch/min.	
	CMOTR309D309	115 V / 2.65 Inch/min.	
810	CMOTR20SG109	24 V / 0.66 Inch/min.	Direct current motor group
	CMOTR309G209	24 V / 1.75 Inch/min.	
	CMOTR309G309	24 V / 2.65 Inch/min.	
810	CMOTR154I009	24 V DC, BLDC	
900	CHESR3000009		Lever-force switch group
1000	CFFER3000009		Slide-group



Series

REact 30DC-PoP

Electric 3kN actuator for control valves with emergency power supply REepac03

Characteristics REact 30DC PoP

- 24 V BLDC Motor technology
- Advanced motor electronic REdrive^{ecu}
- 3-point step control
- Separate force and limit switches for both directions
- Four speed settings as standard
- Protection rating IP 65 / NEMA 4X
- Valve position indicator
- Manual hand wheel
- Electrical connections via plug/socket connectors
- CE Marking

Characteristics REepac03

- SuperCap technology
- Maintenance free
- Backup speed:
2.6 inch/min. REact30 DC PoP **low** version
7.3 inch/min. REact30 DC PoP **high** version
- Max. travel range: 1½ inch
- Actuator spindle retracted or extended selectable via DIP switch
- Life cycle: > 500 000 Cycles
- Charging time : 60 sec/ max charge
- Power supply: 24VDC/ 4A
- Degree of protection: IP65 / NEMA 4x
- Ambient temperature -4°F to 158°F

Options:

- Power pack input: 90-264 V 50/60 Hz
Out 24V DC
- Heater
- Potentiometer
- Position indicator, 2 or 3-wire
- REpos Positioner with display
- Bus system (Profibus DP, CAN open)
- NRTL(Nationally Recognized Testing Laboratory)-Certification for USA & Canada (Documentation: REact 30-8010 NRTL)
- Marine air resistant variant



Data sheet under
<https://www.rtk.de/en-us/Products/Actuators>

Technical data

* If power supply (NG2450) is used the ambient temperature range is 14°F to 140°F

Type	REact 30DC-PoP				
Operating force	629 lbs/F				
Closing force	675 lbs/F				
Stroke	max. 1 ½ Inch				
Speed low version	Inch/min	0.47	0.66	1.0	2.0
Speed high version	Inch/min	1.42	1.74	2.65	5.3
Power draw	Watts	9 / 26	10 / 33	13 / 43	21 / 48
Motor voltage	24 VDC*				
Isolation class	B				
Motor rating	S1– 100%				
Force Switches	2 (directly wired)				
Limit Switches	2 (directly wired)				
Additional Limit Switches	2 (rating 4 A, 250 V)				
Protection rating	IP 65, DIN EN 60529 / NEMA Type 4X				
Ambient temperature	-4°F to 158°F*				
Mounting position	Any (NOT upside down)				
Gear lubricant	Divinol Fett F 14 EP				
Cable glands	4 x M 20				
Weight	11 lbs				
Optional Accessories					
Potentiometer		Max. 2	1k, 2k 5k Ohm		
Position indicator	REtrans4W (3-wire) REtrans2W (2-wire)	Output signal	(O)4 - 20 mA / (O)2 - 10 V		
REpos / digital positioner with display	REpos	Input signal Output signal	(O)4 - 20 mA / (O)2 - 10 V (O)4 - 20 mA / (O) 2 - 10 V		
REpos with Profibus DP REpos with CAN-Open	available				
Heater	12-36 V (3W / 6W) / 110-230V (3 W / 6 W)				
Power Pack (NG2450)	Input: 90-264V 50/60Hz / Output: 24VDC				
NRTL-Certification	see separate document REact 30 – 8010 NRTL				
Marine air resistant variant	available				



REact

REact 60

Series

REact 60E-030

REact 60E-045

REact 60E-090

REact 60E-170

REact 60 DC

Electric actuator for control and shut/off valves

- 3-point step control
- Separate force and limit switches for both directions
- Low height due to adaption spindle
- Protection rating IP 65 / NEMA 4x
- Valve position indicator
- Manual hand wheel
- Electrical connections via plug/socket connectors
- CE marking

Options:

- Heater
- Potentiometer
- Position indicator, 2 or 3-wire
- REpos positioner with display
- Bus system (Profibus DP, CANopen)
- Process controller integrated in cover
- Hydraulic system for fail-safe control
- NRTL(Nationally Recognized Testing Laboratory)-Certification for USA & Canada (Documentation: REact 60-100-8010 NRTL)
- Marine air resistant variant

REact 60 DC with brushless 24 VDC motor technology (REdrive)

- Four speed settings as standard

Options:

- Power pack, input: 90-264 V 50/60 Hz



Data sheet under
<https://www.rtk.de/en-us/Products/Actuators>

Technical data

*At 60 Hz the speed and power consumption increase by 20 %

** If power supply (NG2450) is used the ambient temperature range is 14°F to 140°F

Type	REact 60 E				REact 60 DC				
	-030	-045	-090	-170					
Operating force	1350 lbs/F				1350 lbs/F				
Stroke	max. 2 3/8 Inch				max. 2 3/8 Inch				
Speed	Inch/min	0.71	1.06	2.13	4.02	0.47	0.71	1.06	2.13
Power draw	Watts	27	46	46	81	11.5	12.5	18	27
Motor voltage	24 V, 115 V, 230 V, 50/60 Hz*				24 VDC**				
Isolation class	B				B				
Motor rating	S1 100%	S1 100%	S1 100%	S3 50%	S1 100%				
Force Switches	2 (directly wired)				2 (directly wired)				
Limit switches	2 (directly wired)				2 (directly wired)				
Additional Limit Switches	2 (rating 4 A, 250 V)				2 (rating 4 A, 250 V)				
Protection rating	IP 65, DIN EN 60529 / NEMA Type 4X				IP 65, DIN EN 60529 / NEMA Type 4X				
Ambient temperature	-4°F to 158°F				-4°F to 158°F**				
Mounting position	Any (NOT upside down)				Any (NOT upside down)				
Gear lubricant	Divinol Fett F 14 EP				Divinol Fett F 14 EP				
Cable glands	4 x M 20				4 x M 20				
Weight	15 lbs				15 lbs				
Optional Accessories									
Potentiometer		Max. 2	1k, 2k 5k Ohm			Max. 2	1k, 2k 5k Ohm		
Position indicator	REtrans 4W (3-wire) REtrans 2W (2-wire)	Output signal	(0)4 - 20 mA / (0)2 - 10 V		REtrans 4W (3-wire) REtrans 2W (2-wire)	Output signal	(0)4 - 20 mA / (0)2 - 10 V		
REpos / digital positioner with display	REpos	Input signal Output signal	(0)4 - 20 mA / (0)2 - 10 V (0)4 - 20 mA / (0)2 - 10 V		REpos	Input signal Output signal	(0)4 - 20 mA / (0)2 - 10 V (0)4 - 20 mA / (0)2 - 10 V		
REpos with Profibus DP REpos with CAN-Open	available				available				
Heater	12-36 V (3W / 6W) / 110-230V (3 W / 6 W)				12-36 V (3W / 6W) / 110-230V (3 W / 6 W)				
Power Pack (NG2450)					Input: 90-264V 50/60Hz / Output: 24VDC				
Process Controller					Qube (1 channel PID Process Controller)				
NRTL-Certification	see separate document REact 60/100 – 8010 NRTL				see separate document REact 60/100 – 8010 NRTL				
Marine air resistant variant	available				available				



REact

REact 100

Series

REact 100E-030

REact 100E-045

REact 100E-090

REact 100 DC

Electric actuator for control and shut/off valves

- 3-point step control
- Separate force and limit switches for both directions
- Low height due to adaption spindle
- Protection rating IP 65 / NEMA 4x
- Valve position indicator
- Manual hand wheel
- Electrical connections via plug/socket connectors
- CE marking

Options:

- Heater
- Potentiometer
- Position indicator, 2 or 3-wire
- REpos positioner with display
- Bus system (Profibus DP, CANopen)
- Process controller integrated in cover
- Hydraulic system for fail-safe control
- NRTL(Nationally Recognized Testing Laboratory)-Certification for USA & Canada (Documentation: REact 60-100-8010 NRTL)
- Marine air resistant variant

REact 100 DC with brushless 24 VDC motor technology (REdrive)

- Four speed settings as standard

Options:

- Power pack, input: 90-264 V 50/60 Hz | DC



Data sheet under
<https://www.rtk.de/en-us/Products/Actuators>

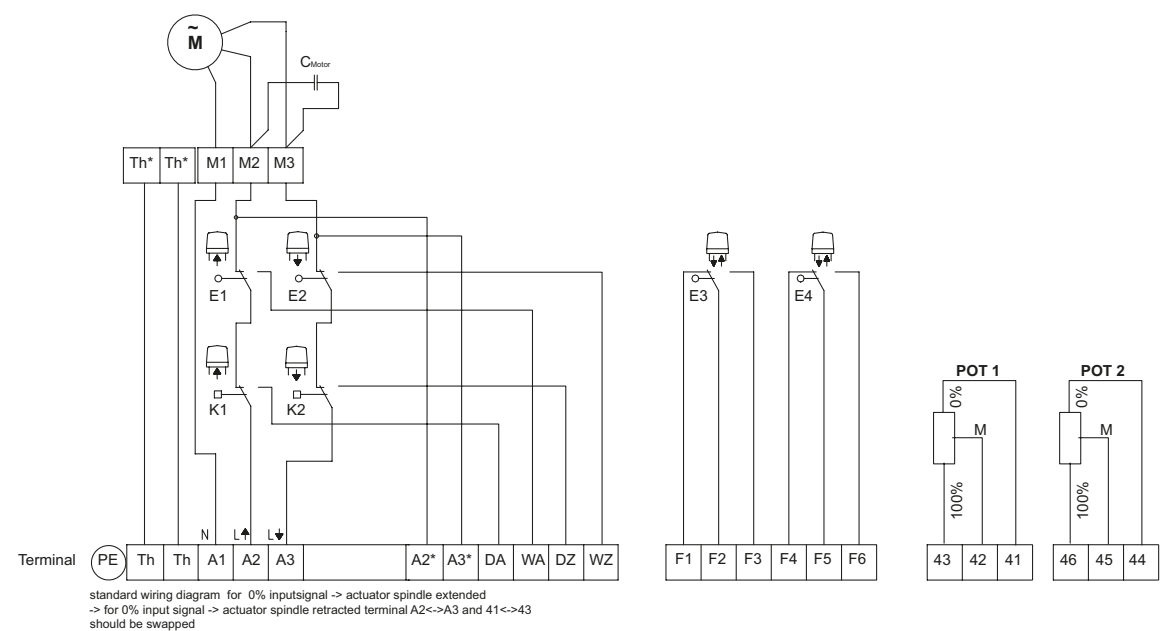
Technical data

*At 60 Hz the speed and power consumption increase by 20 %

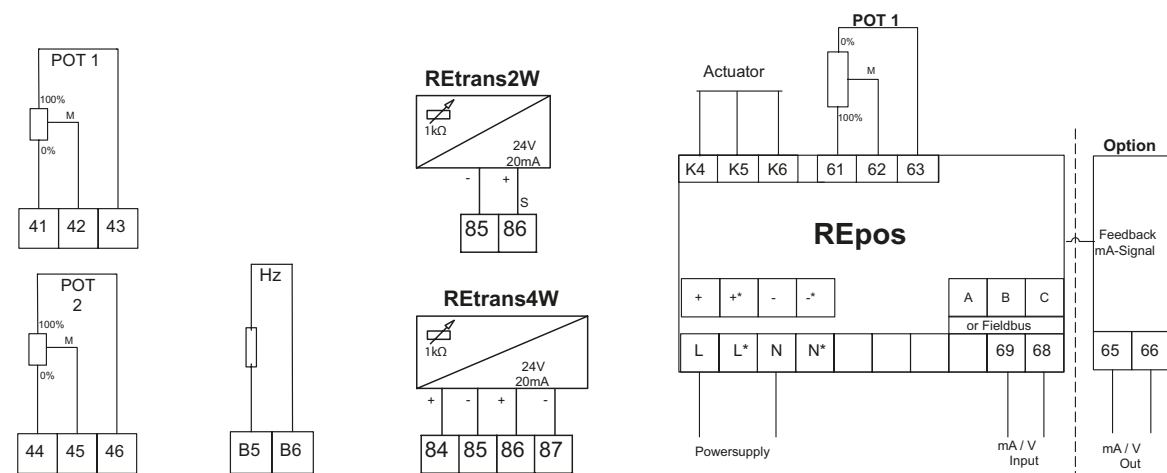
** If power supply (NG2450) is used the ambient temperature range is 14°F to 140°F

Type	REact 100 E			REact 100 DC				
	-030	-045	-090					
Operating force	2250 lbs/F			2250 lbs/F				
Stroke	max. 3 Inch			max. 3 Inch				
Speed	Inch/min	0.71	1.06	2.13	0.47	0.71	1.06	2.13
Power draw	Watts	27	46	46	18	21	28	41
Motor voltage	24 V, 115 V, 230 V, 50/60 Hz*			24 VDC**				
Isolation class	B			B				
Motor rating	S1 100%	S1 100%	S3 50%	S1 100%				
Force Switches	2 (directly wired)			2 (directly wired)				
Limit switches	2 (directly wired)			2 (directly wired)				
Additional Limit Switches	2 (rating 4 A, 250 V)			2 (rating 4 A, 250 V)				
Protection rating	IP 65, DIN EN 60529 / NEMA Type 4X			IP 65, DIN EN 60529 / NEMA Type 4X				
Ambient temperature	-4°F to 158°F			-4°F to 158°F**				
Mounting position	Any (NOT upside down)			Any (NOT upside down)				
Gear lubricant	Divinol Fett F 14 EP			DDivinol Fett F 14 EP				
Cable glands	4 x M 20			4 x M 20				
Weight	15 lbs			15 lbs				
Optional Accessories								
Potentiometer		Max. 2	1k, 2k 5k Ohm		Max. 2	1k, 2k 5k Ohm		
Position indicator	REtrans 4W (3-wire) REtrans 2W (2-wire)	Output signal	(0)4 - 20 mA / (0)2 - 10 V	REtrans 4W (3-wire) REtrans 2W (2-wire)	Output signal	(0)4 - 20 mA / (0)2 - 10 V		
REpos / digital positioner with display	REpos	Input signal Output signal	(0)4 - 20 mA / (0)2 - 10 V (0)4 - 20 mA / (0)2 - 10 V	REpos	Input signal Output signal	(0)4 - 20 mA / (0)2 - 10 V (0)4 - 20 mA / (0)2 - 10 V		
REpos with Profibus DP REpos with CAN-Open	available			available				
Heater	12-36 V (3W / 6W) / 110-230V (3 W / 6 W)			12-36 V (3W / 6W) / 110-230V (3 W / 6 W)				
Power Pack (NG2450)				Input: 90-264V 50/60Hz / Output: 24VDC				
Process Controller				Qube (1 channel PID Process Controller)				
NRTL-Certification	see separate document REact 60/100 – 8010 NRTL			see separate document REact 60/100 – 8010 NRTL				
Marine air resistant variant	available			available				

Wiring diagram E



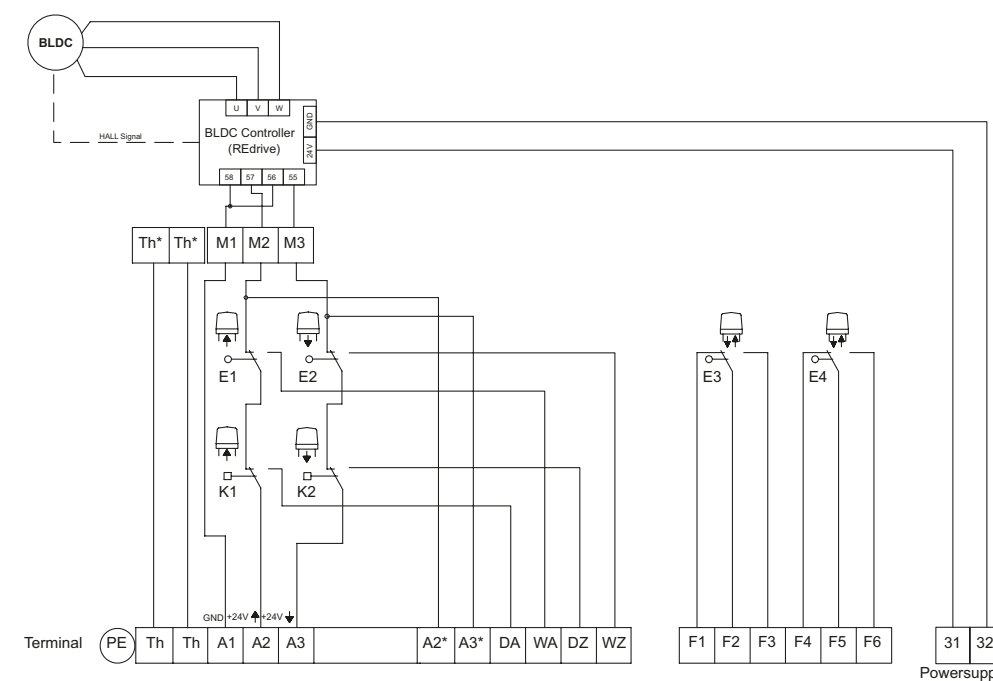
Options:



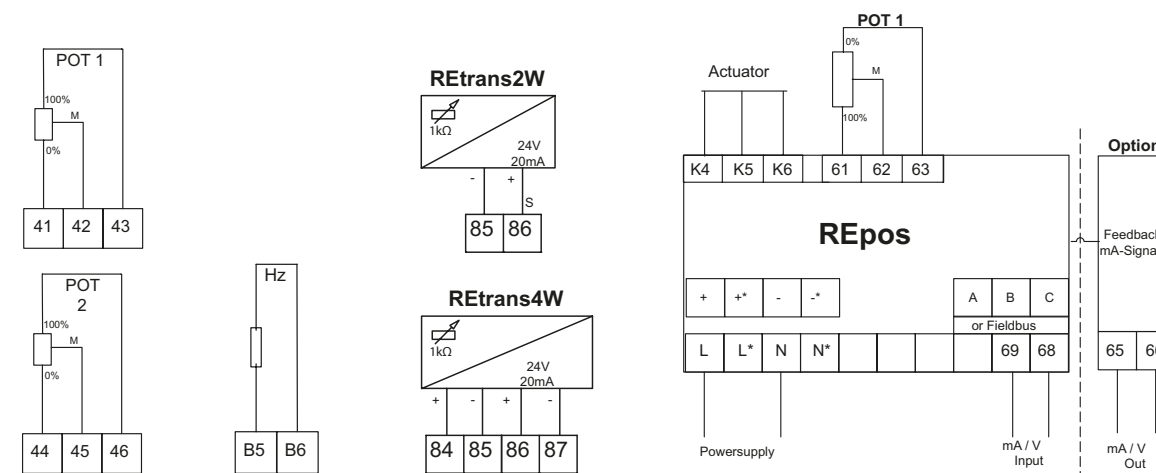
K1	force switch	open direction
K2	force switch	close direction
E1	limit switch	open position
E2	limit switch	close position
E3	limit switch	intermediate position
E4	limit switch	intermediate position

POT	potentiometer
HZ	heater
REpos	Positioner
REtrans	Position indicator

Wiring diagram DC



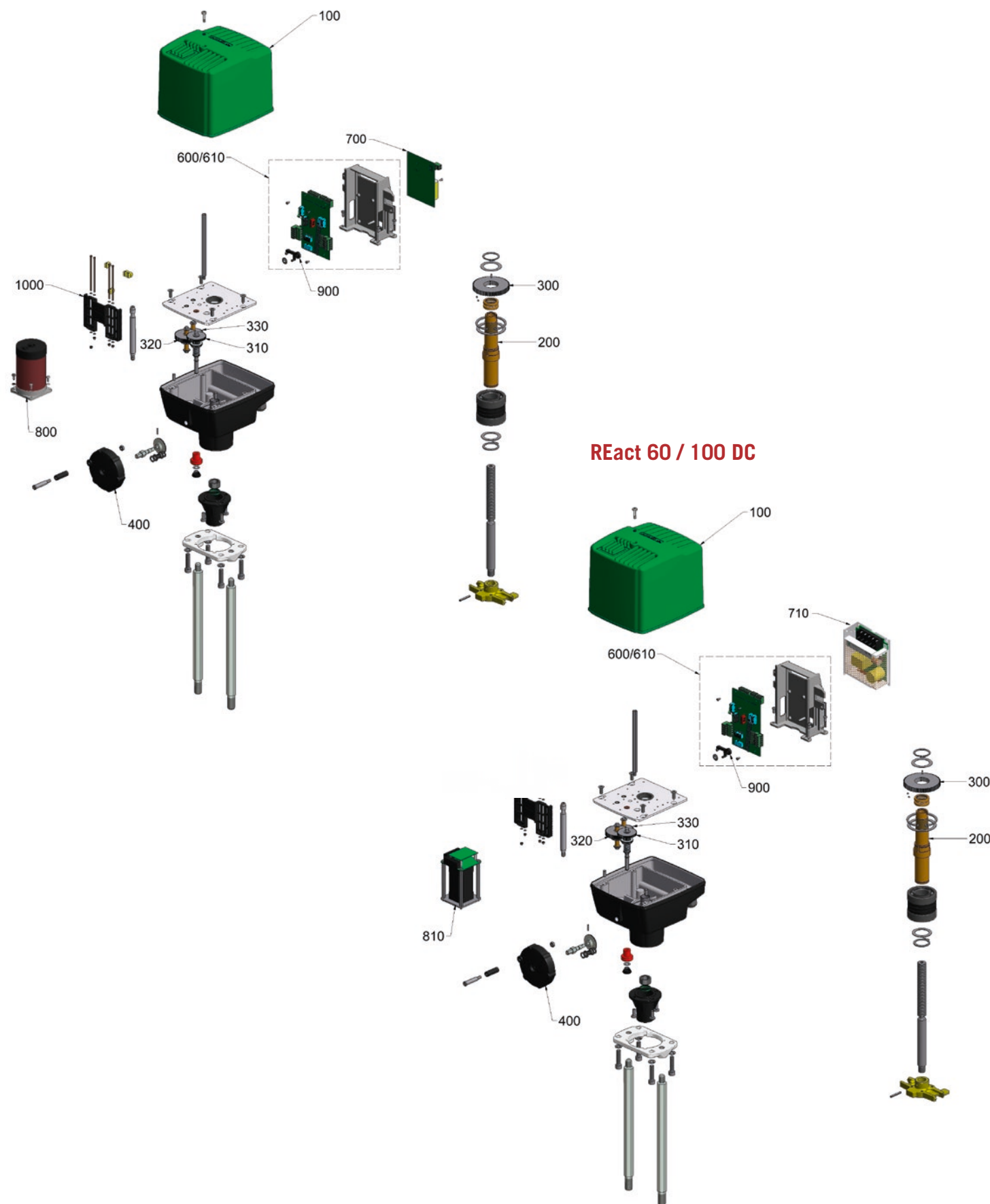
Options:



K1	force switch	open direction
K2	force switch	close direction
E1	limit switch	open position
E2	limit switch	close position
E3	limit switch	intermediate position
E4	limit switch	intermediate position

POT	potentiometer
HZ	heater
REpos	Positioner
REtrans	Position indicator

REact 60 / 100 E



Spare parts list

Pos	Order no.	Note	GB
100	CGEHR3000009		Housing – upper part
110	CGEHR3000029	Marine air resistant variant	
200	CMUSR3500009	REact 60	Spindle nut group
	CMUSR4500009	REact 100	
300	CZRAR4000009		Gear group 0
310	CZRAR3010009		Gear group1
320	CZRAR4021009		Gear group 2
330	CZRAR4031009		Gear group 3
400	CRAH30000009		Hand wheel group
410	CRAH30000029	Marine air resistant variant	
600	CZELR3000009		Main terminal board group
610	CZELR4000009	REact 60-170 /100-090	
700	CPLER...	Type, voltage and speed	Motor capacitor circuit board
710	CNEG15360005	50 W / 24 V / 2,2 A	Power supply unit
800	CMOTR...	Type, voltage and speed	Synchronous-motor group
810	CMOTR404I009	230 V REact60 4.02 inch 230 V REact100 0.90 mm/s	Direct-current-motor-group
900	CHESR3000009	24 V DC, BLDC	Lever-power switch group
1000	CFFER3000009		Slide-group
1010	CFFER4000009		Adaption-slide-group
1100	CSPGR4000009		Adaption-spindle-group
1110	CSPGR4010009		Adaption-spindle-retrofit



REact 150

Series

REact 150

REact 220

REact 300

Electric actuator for control and shut/off valves

- 3-point step control
- Separate force and limit switches for both directions
- Protection rating IP 65 / NEMA 4X
- Valve position indicator
- Manual hand wheel
- Electrical connections via plug/socket connectors
- CE marking

Options:

- Heater
- Potentiometer
- Position Indicator 2 or 3-wire
- REpos Positioner with Display
- Bus system (Profibus DP, CAN-Open)



Data sheet under
<https://www.rtk.de/en-us/Products/Actuators>

Technical data

** If an electronic positioner is used, then the ambient temperature range must be equivalent to the positioners temperature range

Type	REact 150				REact 220			REact 300			
Operating force	3372 lbs/F				4945 lbs/F			6744 lbs/F			
Closing force	3372 lbs/F				4945 lbs/F			6744 lbs/F			
Stroke	max. 4 Inch				max. 4 Inch			max. 4 Inch			
Speed	Inch/min	0.38	0.5	0.75	1.5	0.38	0.5	0.75	0.38	0.5	0.75
Power draw	Watts	38	50	75	150	56	74	110	76	110	150
Power supply	3 ~ 380-480 V 50/60 Hz / 1 ~ 100-240 V 50/60 Hz				3 ~ 380-480 V 50/60 Hz / 1 ~ 100-240 V 50/60 Hz			3 ~ 380-480 V 50/60 Hz / 1 ~ 100-240 V 50/60 Hz			
3-point step signals	24VDC / 16mA				24VDC / 16mA			24VDC / 16mA			
Motor rating standard Duty cycle	short-time 2 steps /sec 100% ED				short-time 2 steps /sec 100% ED			short-time 2 steps /sec 100% ED			
Motor rating	S1- 100%				S1- 100%			S1- 100%			
Additional Limit switches	2 / Max. 24VDC / 2A				2 / Max. 24VDC / 2A			2 / Max. 24VDC / 2A			
Protection rating	IP 65, DIN VDE 0470, NEMA 4x				IP 65, DIN VDE 0470, NEMA 4x			IP 65, DIN VDE 0470, NEMA 4x			
Ambient temperature	-4°F to 158°F **				-4°F to 158°F **			-4°F to 158°F **			
Mounting position	Any (NOT upside down)				Any (NOT upside down)			Any (NOT upside down)			
Cable glands	4 x M 20				4 x M 20			4 x M 20			

Optional Accessories

Potentiometer	Max. 2 1k, 2k 5k Ohm
Position indicator	REtrans4W (3-wire) REtrans2W (2-wire) Output signal (0)4 - 20 mA / (0)2 - 10 V
REpos / digital positioner with display	REpos Input signal Output signal (0)4 - 20 mA / (0)2 - 10 V (0)4 - 20 mA / (0) 2 - 10 V
REpos with Profibus DP REpos with CAN-Open	available
Heater	8W

The REact 150 / 220 / 300 will be available at the end of 2019.



REactTron

Series

 REactTron 30DC

 REactTron 60DC

 REactTron 100DC

Electric actuator for control valves with integrated single loop PID controller

- Single loop PID controller type : Qube
- Power supply: 24V DC
- Input: mA, V, PT100, TC (free selectable)
- Output: 3-point step
- Degree of protection: IP65 / NEMA 4x
- Ambient temperature: -32°F to 122°F

- Power unit: In 115/230VAC out 24VDC
- Prewired connectors

Options:

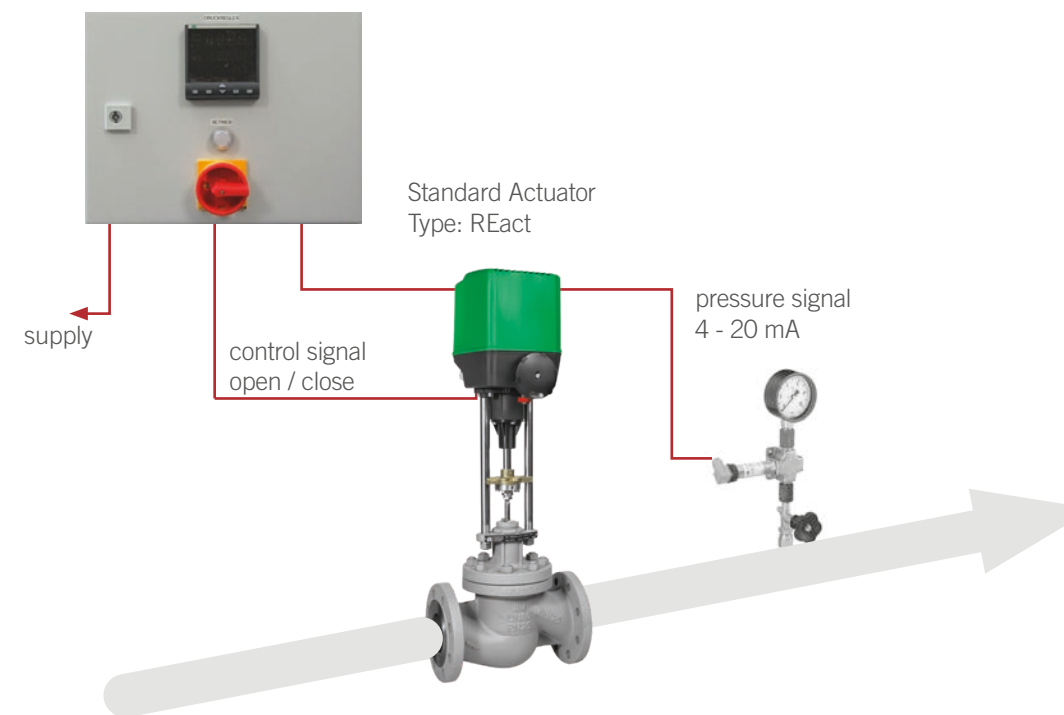
- Interface RS485 Modbus (on request)
- RElog (starting up device for emergency closing unit)
- Approval: NRTL



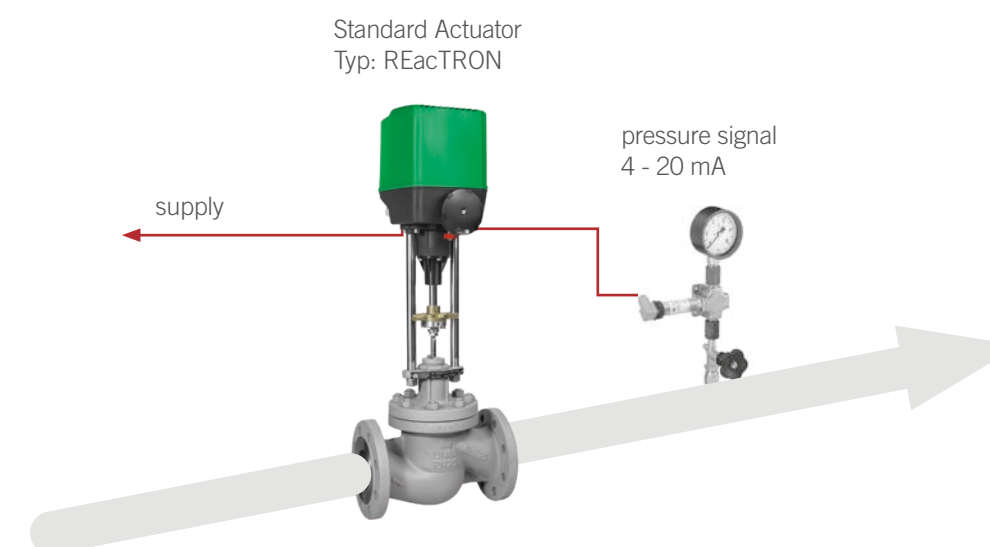
Data sheet under
<https://www.rtk.de/en-us/Products/Actuators>

Application

Standard solution for single loop PID process control



Low cost solution REactTron -> reduced material and costs



Potentiometer

1	x	potentiometer-group
1	x	potentiometer-pinions
1	x	leg spring
1	x	screw M3x 12 TX10
1	x	nut M3 SW 5.5
2	x	washer
1	x	distance bush

Select potentiometer pinion depending on the real valve stroke.

Up to 2 Inch real valve stroke

Nr.1	stroke 0-0.94 Inch (0-24mm), Ø 0.4 Inch (10.5mm)
Nr.2	stroke 1-1.14 Inch (25-29mm), Ø 0.49 Inch (12.6mm)
Nr.3	stroke 1.18-1.41 Inch (30-36mm), Ø 0.63 Inch (16.1mm)
Nr.4	stroke 1.45-2.12 Inch (37-54mm), Ø 0.9 Inch (23.1mm)

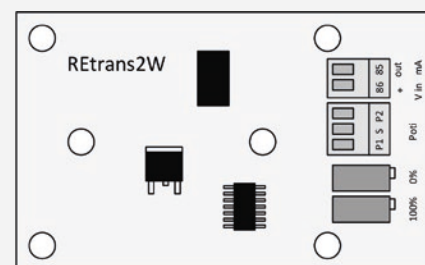
From > 2 Inch real valve stroke (Actuator with adaption spindle)

Nr.4	stroke 1.45-2.12 Inch (37-54mm), Ø 0.9 Inch (23.1mm)
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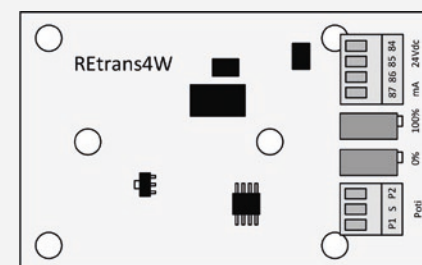
Push the selected pinion on the potentiometer shaft.



Position Indicator REtrans2W



Position Indicator REtrans4W



data electrical	REtrans4W	REtrans2W
output current Ia	0(4)-20mA	4-20mA
power supply Uv	24V DC	7V DC +(I x RL), max 28V
max. current	26mA	20mA
max. load RL	380 Ω	(Uv - 7V) / 20mA, max 850 Ω
transmitter potentiometer	conductive plastic 1kΩ	conductive plastic 1kΩ
data mechanical		
connection stranded / solid wire	0.3-1.3mm ² AWG 26-16	0.3-1.3mm ² AWG 26-16
screw (plug)	M2	M2
torque (plug)	0.34Nm	0.34Nm
screw (mounting)	3x6 TX10 self tapping	3x6 TX10 self tapping
torque (mounting)	0.35Nm	0.35Nm

REpos Digital positioner with display



- 128*64 dots graphic display
- menu guided configuration
- input (0)4..20mA / (0)2..10V
- control output: solid state relay
- automatic adaptation
- manual adaption
- service / diagnostic function

optional:

- feedback module(0)4..20mA galvanic isolated
- fieldbus: Profibus DP, CAN- open

Function

- Microcontroller based positioner Series REpos.
- Auto initialisation function for easy adaption to the actuator/valve.
- Open/close and manual/automatic keys for local operation.
- Input signal 0(4)-20mA/ 0(2)-10V
- Feedback signal 0(4)-20mA/ 0(2)-10V signal galvanic isolated invertible to the input signal
- Split range function free scalable
- Setpoint function free adjustable -> 20 setpoint turning points
- Dead band 0.5..5%
- Safety position open/closed by loss of signal or signal fault(< 3.5mA / <1.5V) -> (not available at 0-20mA or 0-10V input)
- Close tight function 0.5..5% to tightly close the valve
- optional fieldbus module“ on board” Profibus DP CAN-open
- service function Temperature “ on board” operation hours counter total operation command counter stroke depended operation command counter

Technical data

Display:	128*64 dots graphic display
Control signal:	0(4)..20mA Ri ca. 10Ω 0(2)..10V Ri ca. 100kΩ
Control output:	solid state relay (SSR) max.250V/ 50/60 Hz 3.5A
Feedback-potentiometer:	1KΩ conductive plastic or angle sensor
Supply:	115/230V 50/60 Hz 24V 50/60 Hz 24V DC
Power input:	3VA
elect. connection:	plug connector for -signal: AWG 26-16 -power: AWG 24-12
Ambient temp.:	-4°F to 158°F
optional:	
Feedback signal:	(0)4 - 20 mA / (0)2 - 10 V, max. 500Ω galvanic isolated
fieldbus:	Profibus, CAN-open

Max. Permissible Shutoff Pressures with Electric Actuators (psig)

P2 = 0 psig, Flow-to-Open/Close, Stem Packing PTFE/Graphite [1]

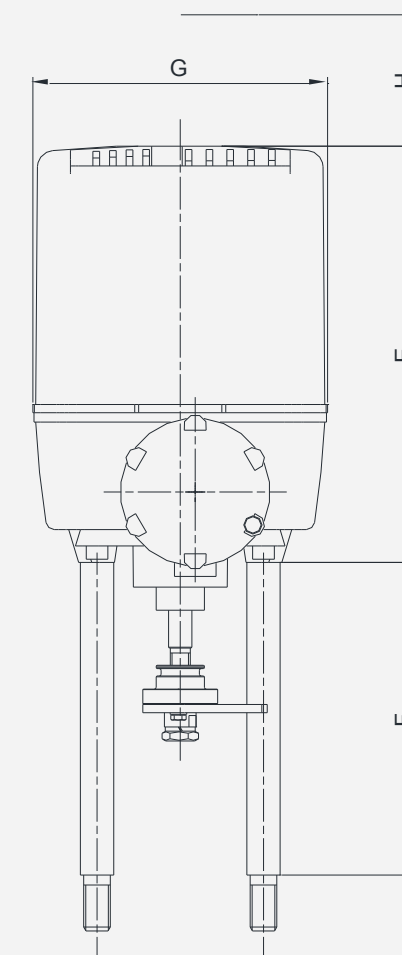
Seat [Inch]	Plug type	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	7	8	9	10	12	14	16	
Stroke [Inch]	Parabolic, V-port (eq-%)	1	1	1	1	1	1	1 1/4	1 1/4	1 1/4	1 3/8	1 3/8	-	1 1/2 [2]	2	2 3/8	-	3	-	3 3/4	4	4	4 3/4	
	V-port (linear)	-	-	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1	-	1 1/4	1 1/2	-	2 3/8	-	3	-	3 3/4	4	4	4 3/4	
	Perforated	-	-	1	1	1	1	1 1/4	1 1/4	1 1/4	1 1/2	2	2	2	2 3/8	3	3 3/4 [3]	3 3/4 [3]	3 3/4 [3]	3 3/4 [3]	4	4 3/4	5 3/8	
	On/off	-	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1	-	1 1/4	1 3/8	1 1/2	-	2 3/8	-	3	-	3 3/4	4	4	4 3/4
	Mixing	-	-	-	1/2	1/2	1/2	1/2	1/2	1/2	1	-	1 1/4	1 3/8	1 1/2	-	2 3/8	-	3	-	3 3/4	4	4	4 3/4
	Diverting	-	-	-	1/2	1/2	1/2	1/2	1/2	1/2	1	-	1	-	1 3/8	-	1 1/2	-	2 3/8	-	3	-	-	-

Actuator	Stroke [Inch]	Shutoff pressure [psig]																					
REact 15	1 3/8 (35mm)	740	740	740	740	435	263	148	85	47	21	9	5	2	-	-	-	-	-	-	-	-	-
REact 30	1 1/2 (40mm)	2220	2220	2220	2046	1127	706	418	258	158	87	53	39	30	16	9	-	-	-	-	-	-	-
REact 60	2 3/8 (60mm)	2220	2220	2220	2220	2220	1593	959	604	379	218	139	108	85	52	34	-	-	-	-	-	-	-
REact 100	3 (80mm)	2220	2220	2220	2220	2220	2220	1680	1066	675	392	255	199	159	99	67	-	-	-	-	-	-	-
REact 150	4 (100mm)	2220	2220	2220	2220	2220	2220	2220	1575	1001	585	382	299	241	151	103	74	55	43	34	23	16	11
REact 220	4 (100mm)	2220	2220	2220	2220	2220	2220	2220	2220	1518	891	584	459	370	234	160	116	88	68	55	37	26	20
REact 300	4 (100mm)	2220	2220	2220	2220	2220	2220	2220	2220	2109	1241	815	641	518	328	226	164	125	98	78	53	38	29

[1] Consult factory for shutoff ratings when using other packing types.

[2] Stroke 2 Inch for Valves with 1 1/4 Inch Stem

[3] Two different strokes available



REact 30



REact DC-PoP



REact 60 / 100



REact 150 / 220 / 300

Actuator Dimensions and Weights

Actuator	E		F		G		H		Weight	
	[Inch]	[mm]	[Inch]	[mm]	[Inch]	[mm]	[Inch]	[mm]	[lbs]	[kg]
REact 15	7 1/4	184	7 1/8	180	7 3/8	186	5 1/8	130	9	4.2
REact 30	9 1/4	233	7 1/2	190	10 3/8	262	4 3/4	120	10	4.5
REact 60	9 1/4	233	11 5/8	295	10 3/8	262	4 3/4	120	15	6.7
REact 100	9 1/4	233	11 5/8	295	10 3/8	262	4 3/4	120	15	6.7
REact 150	12 1/8	308	16 7/8	430	10 3/8	273	7 7/8	200	48.5	22
REact 220	12 1/8	308	16 7/8	430	10 3/8	273	7 7/8	200	48.5	22
REact 300	12 1/8	308	16 7/8	430	10 3/8	273	7 7/8	200	48.5	22



CIRCOR is a market-leading, global provider of integrated flow control solutions, specializing in the manufacture of highly engineered valves, instrumentation, pipeline products and services, and associated products, for critical and severe service applications in the oil and gas, power generation, process, aerospace, and defense industries.

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Assembled and supported in the US & Canada

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