

ROTEX EHF-COMPACT SERIES ACTUATOR



SELF-CONTAINED COMPACT BASIC ELECTRO HYDRAULIC ACTUATOR

Trusted Tested Certified



ATEX CE



FIELD COMM
GROUP

EAC

 **ROTEX**

Engineering for The future

PATENTED

MEET THE FUTURISTIC AND MOST COMPACT ELECTROHYDRAULIC ACTUATOR

Suitable for valve torques up to 3000 Nm



WHY ROTEX SELF CONTAINED EHF-COMPACT SERIES?



Does your system need expensive and difficult to maintain compressed air systems to operate?

Rotex EHF-COMPACT series eliminates the use of any such external systems owing to its self-contained operating principle



Do you suffer from leakage issues due to too much tubing and cabling?

Rotex EHF-COMPACT series has zero tubing, zero exposed wiring. This completely eliminates problems due to tubing or cabling faults



Does your valve or damper fail to reach FAIL SAFE Position due to -

A. No FAIL-SAFE Electrical actuators available
B. Failure of external sources like batteries or capacitors
Rotex EHF-COMPACT series is self-contained



Do you have space constraints due to extremely bulky actuators?

Rotex EHF-COMPACT series is compact, having the smallest footprint of Electro-hydraulic actuators for a given application



Does your plant suffer due to process inconsistencies, poor accuracy or slow closing time?

Rotex EHF-COMPACT series has a unique adaptive PID loop, providing accuracy, repeatability and dead-band of less than 0.2% and enabling closing time up to 1 second

THE RELIABLE AND INNOVATIVE SIL 3 ROTEX EHF- COMPACT SERIES SOLVES ALL PROBLEMS AND ASSURES LONG TERM UNINTERRUPTED PERFORMANCE!

SEE HOW

EHF-COMPACT BASIC



KEY FEATURES

- Relay based electrical logic circuit
- Open/Close signal feedback included
- Heavy-duty application
- Well protected parts
- No EXPOSED wiring or tubing
- Easy to install and commission
- Integrated oil-level indicator

KEY FEATURES

SINGLE ACTING



- Truly self-contained
- Smallest footprint among electrohydraulic actuators
- Scotch-Yoke design
- Fully integral body- Scotch-yoke, Hydraulic block, limit switch, motor, pump, etc. are integral.
- Longer operational life in compliance with EN15714
- Double-acting as well as single-acting
- Torque up to 3000 Nm
- High performance motor and pump
- Actuator spring chamber used has an oil reservoir
- Over travel and under travel control +/- 3 degrees

Hydraulic Manual Override

- Can be installed at a later stage
- Built in sensor available for position feedback (Auto/Manual)

Emergency Shutdown (ESD)

SPECIAL FEATURE

- ESD can be bypassed by simply exchanging two screws. This violates SIL Certifications. However Ideal feature for commissioning

SAVINGS

- Massive OPEX Cost Savings!
- Unit is fully sealed



TECHNICAL DETAILS

TORQUE CHART FOR DOUBLE & SINGLE ACTING ACTUATOR

ACTUATOR MODEL	DOUBLE ACTING ACTUATOR TORQUE (Nm)			SINGLE ACTING ACTUATOR TORQUE					
				HYDRAULIC TORQUE (Nm)			SPRING TORQUE (Nm)		
	START	RUN	END	START	RUN	END	START	RUN	END
EHF-B-0075-C1	168	80	118	161	48	60	58	31	52
EHF-B-0075-C2	213	101	150	141	61	78	71	40	71
EHF-B-0230-C1	361	171	254	230	80	70	185	91	131
EHF-B-0230-C2	437	207	307	265	97	93	214	111	172
EHF-B-0230-C3	573	272	403	340	136	156	247	136	233
EHF-B-0400-C0	745	354	525	428	167	182	343	187	317
EHF-B-0400-C1	940	446	662	612	238	260	401	209	328
EHF-B-1245-C1	1954	928	1376	1280	535	661	714	393	674
EHF-B-2000-C1	2559	1215	1801	1400	596	746	1055	619	1159
EHF-B-2000-C2	3096	1470	2180	1792	782	1019	1161	688	1304

For Fail Close Actuators, Hydraulic torques acts as opening torque, while spring torques acts as closing torques for valve, Similarly For Fail Open Actuators, Hydraulic torques acts as closing torque, while spring torques acts as opening torques for valve.

OPERATING PARAMETERS

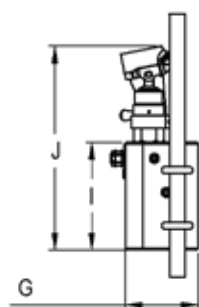
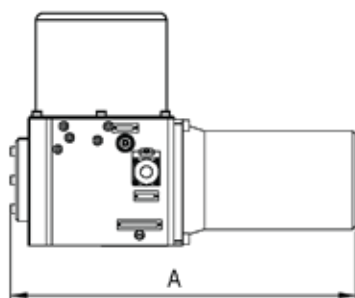
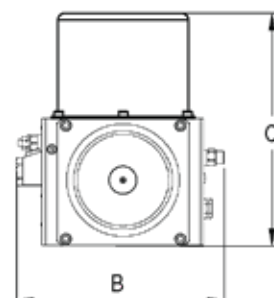
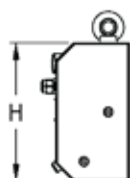
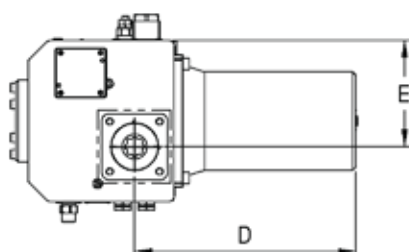
ACTUATOR MODEL	FAIL CLOSE ACTUATOR		FAIL OPEN ACTUATOR		ESD TIME (sec)	POWER	WEIGHT
	OPEN TIME (sec)	CLOSE TIME (sec) ₍₁₎	OPEN TIME (sec)	CLOSE TIME (sec) ₍₂₎			
EHF-B-0075	6	>2	>2	6	<2	90W	35Kg
EHF-B-0230	13	>2	>2	13	<2	90W	42Kg
EHF-B-0400	21	>3	>3	21	<3	90W	50Kg
EHF-B-1245	45	>3	>3	45	<3	150W	85Kg
EHF-B-2000	75	>5	>5	75	<5	200W	105 Kg

Note : (1) For Fail Close Actuator, Minimum Close time given in table, which is adjusted to increase as per the requirement of operation

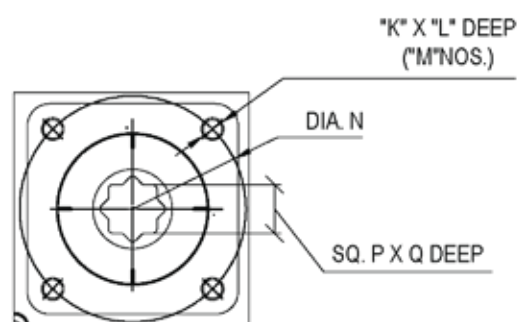
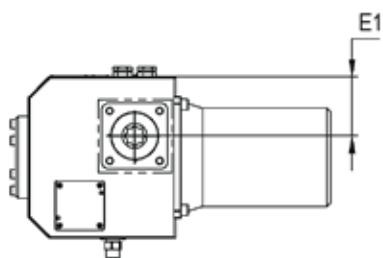
(2) For Fail Open Actuator, Minimum Open time given in table, which is adjusted to increase as per the requirement of operation.

DIMENSIONAL DETAILS

COMPACT EHF INTELLIGENT ACTUATOR



FAIL CLOSE ACTUATOR

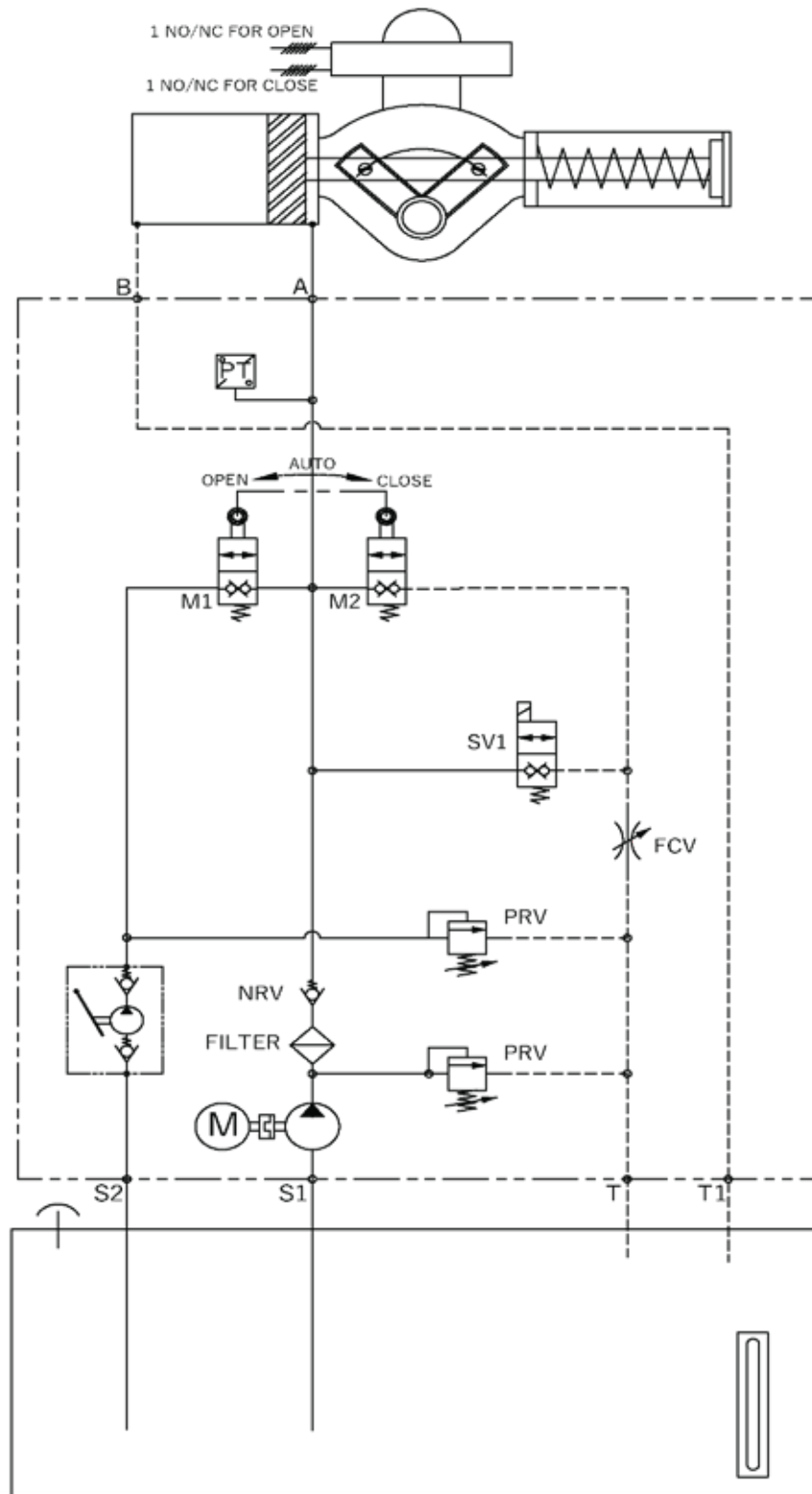


FAIL OPEN ACTUATOR

DIMENSIONAL DETAILS																
MODEL	A	B	C	D	E	E1	G	H	I	J	K	L	M	N	P	Q
EHF-B-0075	418	300	336	247	141.5	91.5	105	200	155	295	M10	18	4 Nos	102	SQ. 22	25
EHF-B-0230	462	300	336	283	147.5	85.5	105	200	155	295	M10	18	4 Nos	102	SQ. 22	25
EHF-B-0400	505	300	336	320	153.5	79.5	105	200	155	295	M10	18	4 Nos	102	SQ. 22	25
EHF-B-1245	608	300	388.5	405	158.5	74.5	105	200	185	325	M10	18	4 Nos	102	SQ. 27	25
EHF-B-2000	750	300	488.5	525	158.5	74.5	105	200	225	355	M16	32	4 Nos	125	SQ. 27	25

SCHEMATIC

SINGLE ACTING



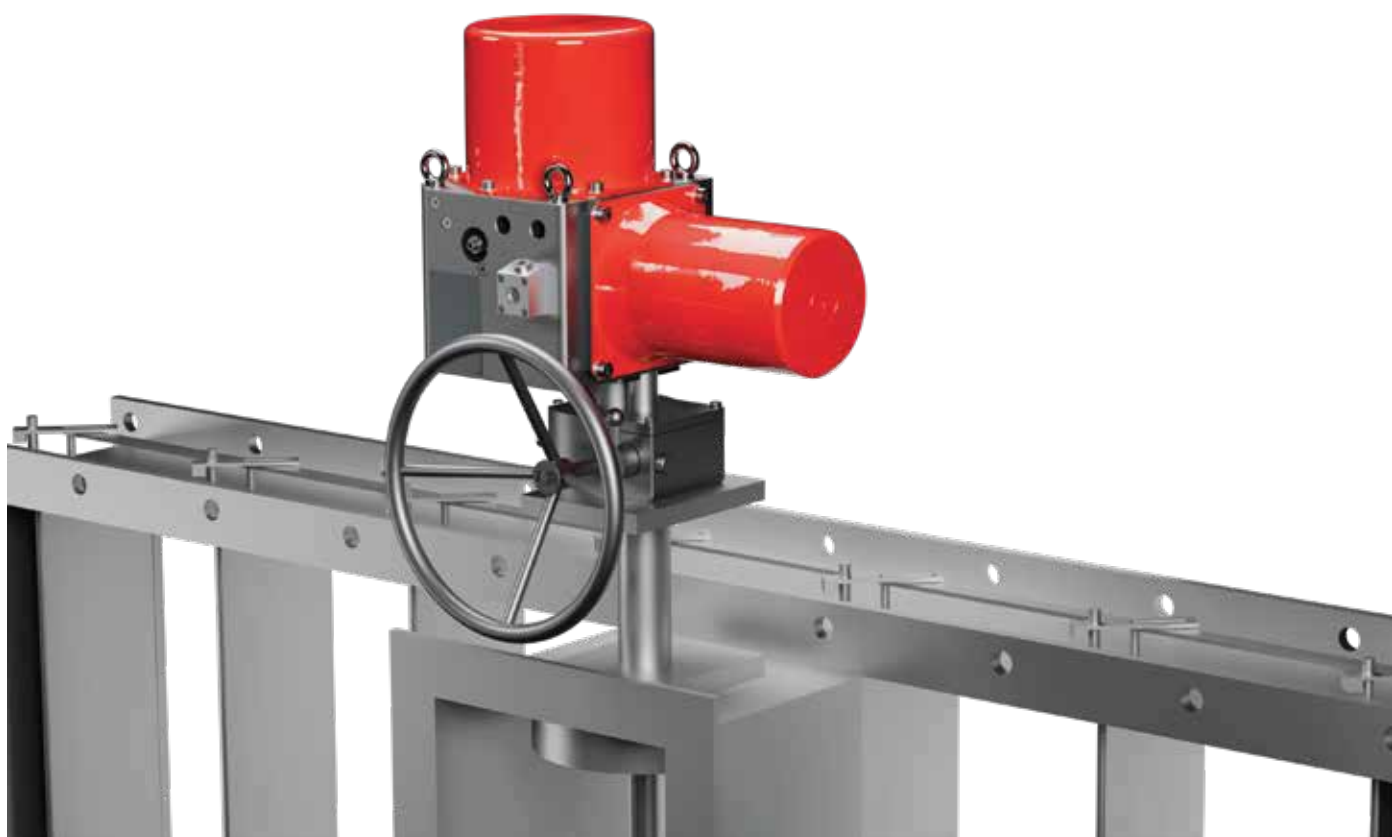
TECHNICAL SPECIFICATIONS

TORQUE RANGE	Torque	50 to 3,000 Nm
ENCLOSURE PROTECTION	Construction	Carbon Steel covers & Aluminum body
	Ingress Protection	Up to IP67
	Controls Location	As standard, the controls are integral to the actuator as an option, the Controller can be mounted in a separated box (maximum distance between actuator and controls = 50m)
	Ambient Temperature Operating Range	NB : -20°C to +70°C AV : -20°C to +85°C FS : -50°C to +70°C
	External Corrosion Protection	Standard paint system: Polyurethane paint RAL3020 complying with ISO 12944 (C5) Optional special anti-corrosion protection for marine, aggressive or abrasive atmospheres All cover fasteners captive and stainless
MOTOR	Motor Technology	<ul style="list-style-type: none"> • 24VDC motor • Totally enclosed within the main housing
	Motor duty rating	S1 - Continuous Duty (1200 Starts per Hour) S4 - Intermittent Duty (60 Starts per Hour)
MECHANICAL SPECIFICATIONS	Manual override	Handwheel operated manual gearbox
	Vibration Resistance	1 g (9.8 m/s ²) at 10-500 Hz (Contact our marketing department for higher vibration levels)
	Lubrication	Actuators are lubricated for product lifetime and do not require any specific periodic maintenance
ELECTRICAL SPECIFICATIONS	Power Supply	The actuators can operate on a wide variety of power supplies: <ul style="list-style-type: none"> • DC Supply: 24 VDC • Single Phase Supply: 110/120VAC , 220/240 VAC, 50/60 Hz • Voltage tolerance: ±10% • Frequency tolerance: ±5%
	Cable Entries	Standard configuration: <ul style="list-style-type: none"> • Power & signal: M20 x 2nos. OR 1/2" NPT x 2nos. Other configurations available on request: plugs, adaptors, ISO thread

TECHNICAL SPECIFICATIONS

POSITION AND PRESSURE SENSORS	Position	Potentiometer
	Pressure	Pressure measured by pressure transducer
	On-off remote Control (Hardwired Control)	Command by <ul style="list-style-type: none"> Voltage: 10 to 250 V DC/AC (current: 10 mA at 24V) Dry contact (use Controller auxiliary 24 VDC supply) Isolated by opto-couplers Minimum pulse duration: 100ms
	Signaling relays	4 relays: each parameter can be freely selected <ul style="list-style-type: none"> Contact configuration: normally open or normally closed Maximum current 5A at 250V AC or 5A at 30VDC (resistive load)
	Fault relay	<ul style="list-style-type: none"> Normally closed & energized SPDT contact Maximum current 5A at 250V AC or 5A at 30V DC (resistive load)
	Analogue Control	Input (setpoint) and output (feedback) signals are fully isolated from each other Signal configuration (selectable): <ul style="list-style-type: none"> Input signal: 4-20 mA / 0-20 mA - output signal: 4-20 mA
	Transmitter (option)	Proportional position (0 / 4-20 mA)
	Limit Switches	<ul style="list-style-type: none"> 2 Mechanical Limit Switch (SPDT): 120 / 230 VAC or 30 VDC

ACTUATOR APPLICATION



ORDERING CODE

1	2	3	4
PRODUCT SERIES	ACTUATOR SIZE	OPERATION	ACTION
CODE DESCRIPTION	CODE DESCRIPTION	CODE DESCRIPTION	CODE DESCRIPTION
EHF-B BASIC VERSION	0075C1, 0075C2, 0230C1, 0230C2, 0230C3, 0400C0, 0400C1, 1245C0, 1245C1 SIZE	OO ON - OFF MO MODULATING	E SINGLE ACTING
5	6	7	8
MOUNTING POSITION	ROTATION DIRECTION	TEMPERATURE	BODY / COVER MATERIAL
CODE DESCRIPTION	CODE DESCRIPTION	CODE DESCRIPTION	CODE DESCRIPTION
S HORIZONTAL V VERTICAL	CC SPRING TO ROTATE CLOCKWISE (FAIL SAFE CLOSE) CW SPRING TO ROTATE COUNTER-CLOCKWISE (FAIL SAFE CLOSE)	NB -20°C TO +70°C FS -50°C TO +70°C AV -20°C TO +85°C	AL ALUMINIUM ENCLOSURE 8M STAINLESS STEEL SS316/CF8M WC WCB/SG IRON ENCLOSURE
		For other Temperature range consult Rotex	
9	10	11	12
HANDPUMP	INPUT POWER SUPPLY	ESD POWER SUPPLY	TRANSMITTER
CODE DESCRIPTION	CODE DESCRIPTION	CODE DESCRIPTION	CODE DESCRIPTION
HN NONE HB HYD. HAND PUMP WITH FEEDBACK	A 24V DC B 1PH 110 - 220V AC 50/60Hz	NE NO ESD AA 24V DV CC 1PH 110V AC 50/60Hz EE 1PH 220V AC 50/60Hz	NT NONE PT POSITION RT PRESSURE BT POSITION + PRESSURE
13	14	15	
CABLE ENTRIES	LIMIT SWITCH	CERTIFICATION	
CODE DESCRIPTION	CODE DESCRIPTION	CODE DESCRIPTION	
SM0 M20 x 2 nos SM1 1/2" NPT x 2 nos.	1A* HONEYWELL SWITCH 3A* P&F NJ2V3N 13A* P&F NBB3V3Z4 6A* HERMETICALLY SEALED SWITCH	C0 WATERPROOF C1 Ex d, IEC-60079-1 C2 Ex d, IEC-60079-1 + PESO C3 Ex d ATEX C4 IECEX, IEC-60079-1 C5 Ex d, IS/IE-C60079-1 + PESO + SIL3 C6 IECEX, IEC-60079-1 + PESO + SIL3 C7 Ex d ATEX + SIL3	

Note* Denotes Number of Switches (max. 4 nos.)

Notes

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Notes

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