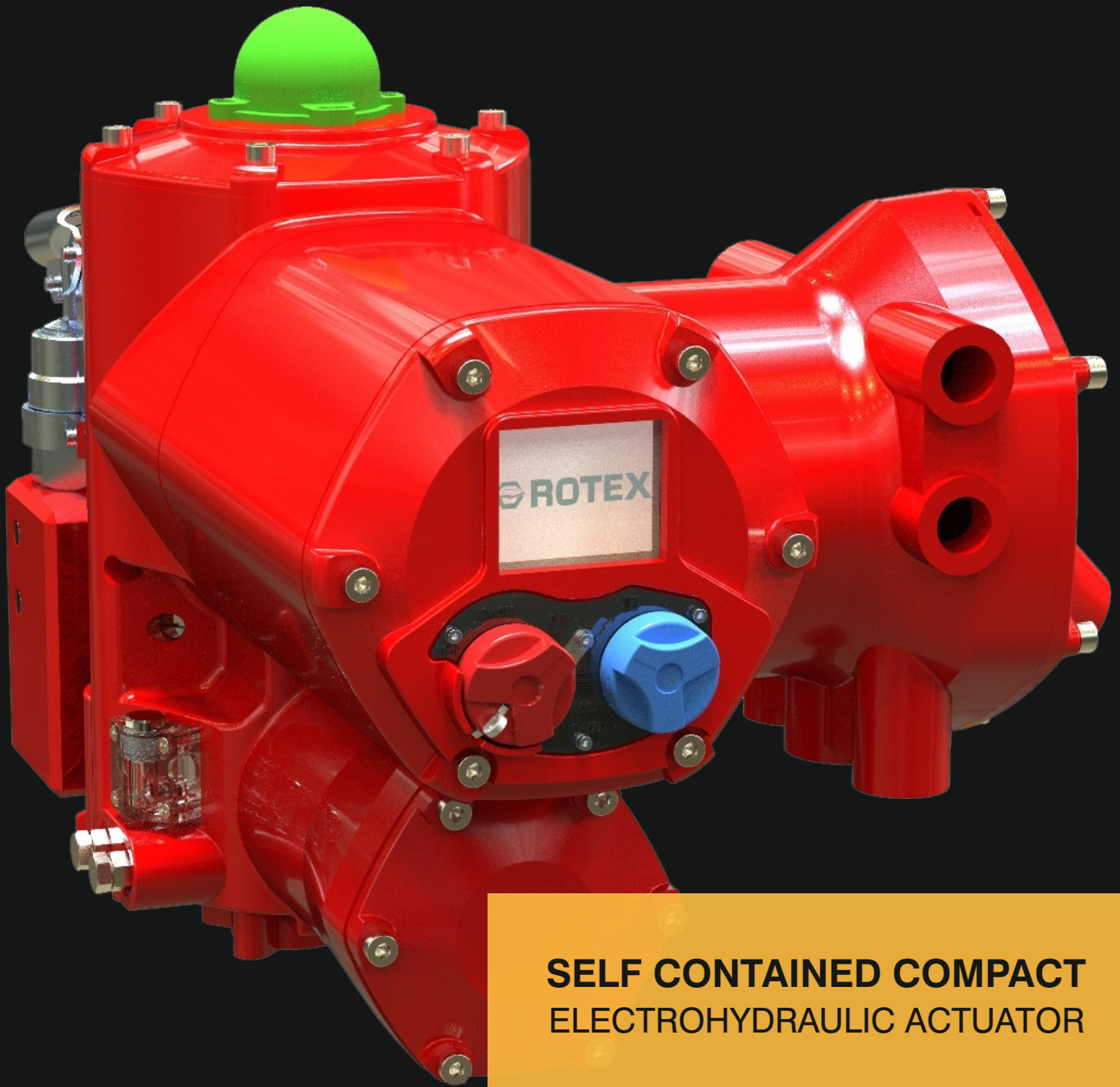


ROTEX EHF-COMPACT SERIES ACTUATOR



**SELF CONTAINED COMPACT
ELECTROHYDRAULIC ACTUATOR**



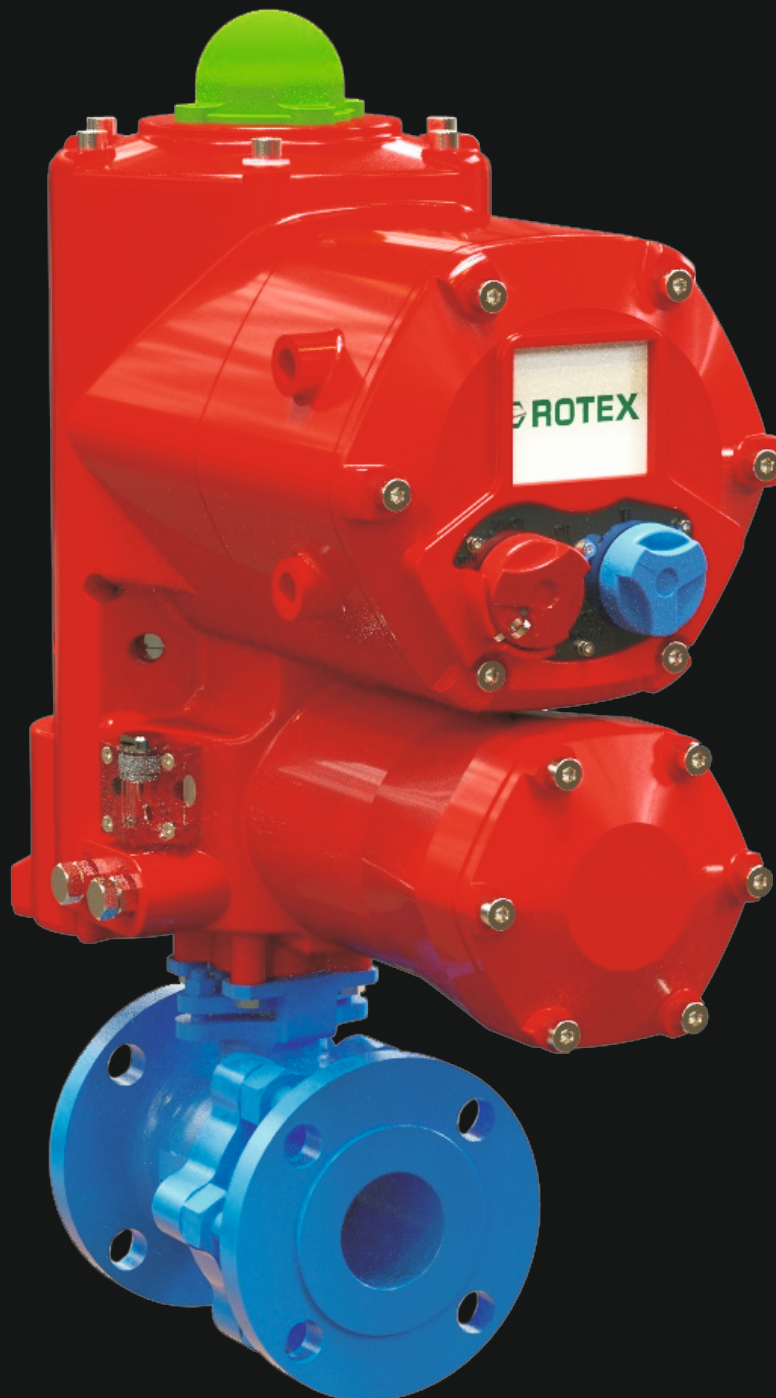
**ATEX CE
P.E.D. SIL**

ROTEX

Engineering For The Future

**MEET THE FUTURISTIC AND MOST COMPACT
ELECTROHYDRAULIC ACTUATOR**

Suitable for valve torques up to 3000 Nm



PATENTS PENDING

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 many tubings 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 FAILSAFE Electrical actuators
 - B. Failure of external sources like batteries or capacitors
 - C. Complex spring that fails to operate
- 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 Electrohydraulic 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 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!

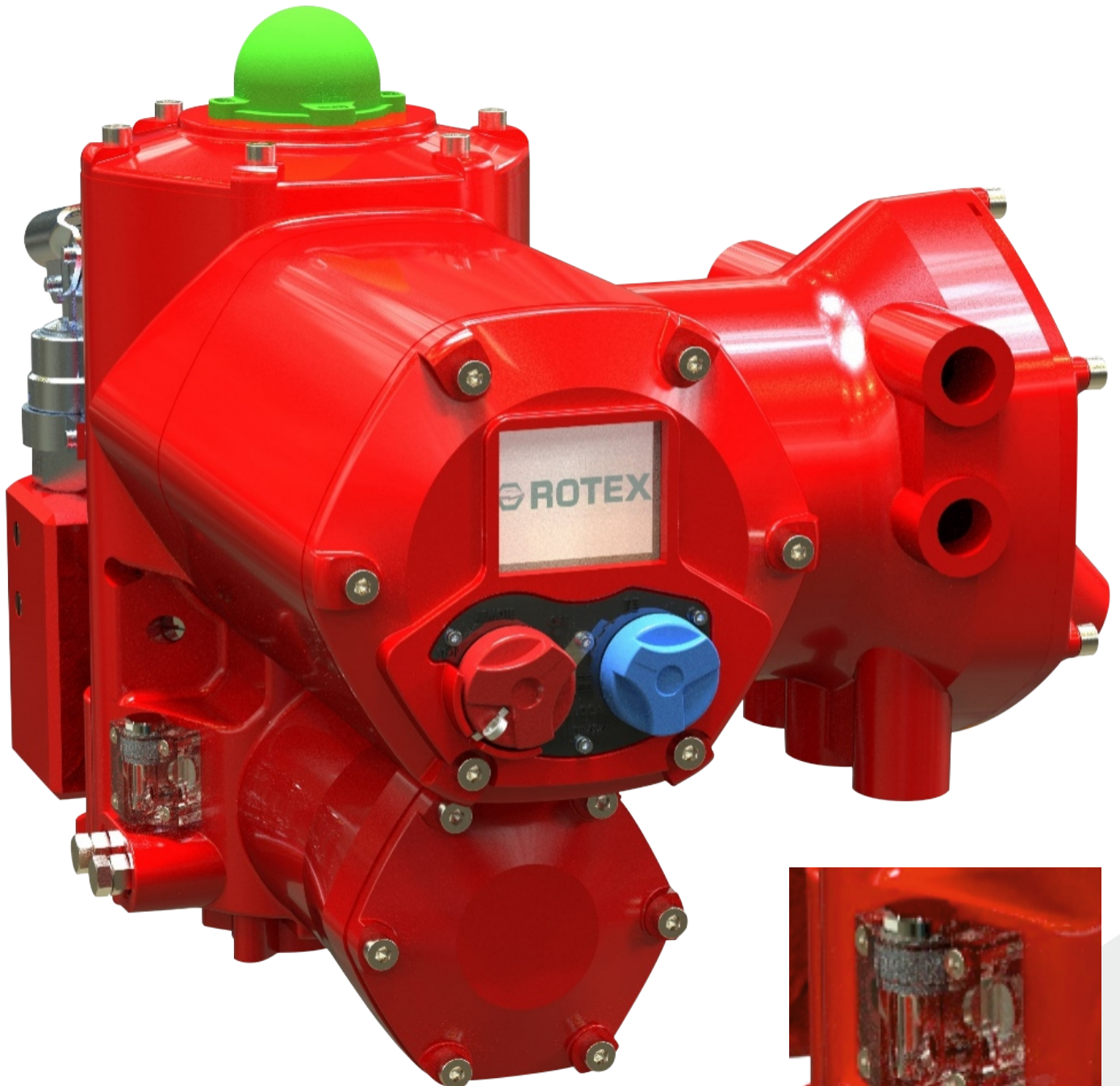
SEE HOW

EHF-COMPACT BASIC



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

EHF-COMPACT INTELLIGENT



- Bluetooth technology for operation and data collection
- DTM for Master Control (Asset Management)
- GLOWDAPT indicator
- Large colour LCD display
- Ergonomic local controls on unit
- No EXPOSED wiring or tubing
- Easy to install and commission
- Integrated oil-level indicator

FEATURES



- Truly self contained
- Smallest footprint of electrohydraulic actuator
- Scotch-Yoke design
- Fully integral body - Scotch-yoke, hydraulic block, electronics and electrical are all integral
- Life of 1 million cycles
- Double acting as well as single acting
- Torque up to 3000 Nm
- High performance motor and pump, designed to generate 3 times the pressure required
- Actuator itself acts like an oil tank
- Over travel and under travel control +/- 3 degrees

Hydraulic Manual Override

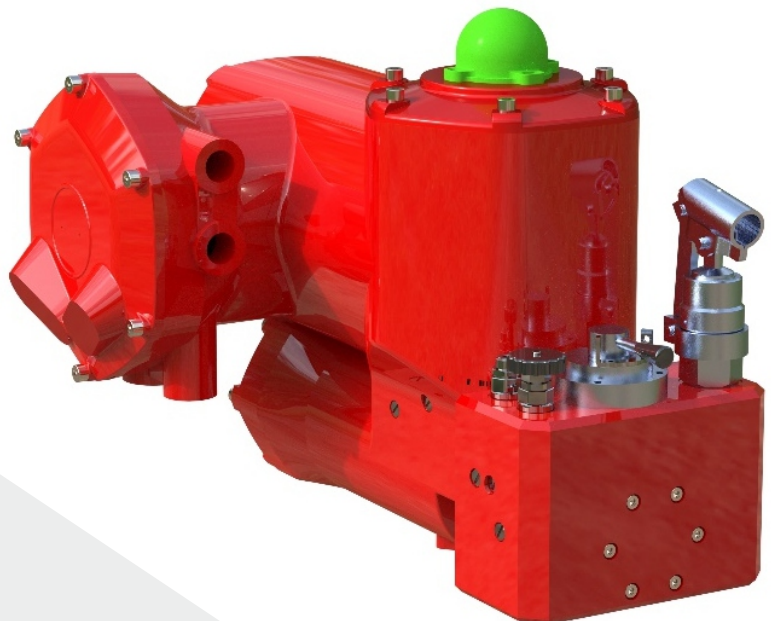
- Can be installed at a later stage
- Built in with sensor available as an option for position feedback (Auto/Manual)

Emergency Shutdown (ESD) Special Feature

- ESD to be energised for the manual hand pump to work

SAVINGS

- Massive OPEX Cost Savings!
- Unit is fully sealed after manufacturing
- Ensuring no foreign matter entry in any of the critical components, like SOV, LS, Pressure relief valve, etc.



The functionality of EHF-COMPACT can meet any technical specification for PNEUMATIC, ELECTRIC OR HYDRAULIC actuators.

**“Accuracy, Dead band and Hysteresis
less than 0.2 %!”**

“Can be mounted vertically or horizontally and can be converted at site... ”

“Designed for your convenience!”



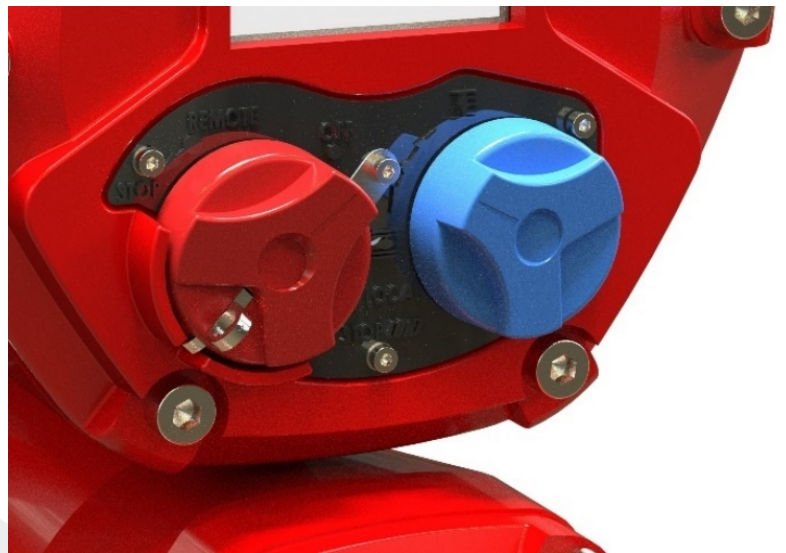
GRAPHICAL DISPLAY

- Large LCD display for better readability.
- No abbreviation or short form used.
- Operator may not need to refer manual for setting or calibration.
- User friendly interface.
- On-screen display of diagnostics, alarms and error messages.
- Structured menu for parameters, setups and diagnostics.



LOCAL CONTROL

- Lockable selector switches are provided on control module.
- The selector switch can be used for setting local/stop/remote selection and open/close.
- It can be used for configuration and for setting parameter.
- Allows manual operation.
- The red selector switch enables the operator to choose remote control, local control function and stop during operation.
- This selector switch can be locked in each position.



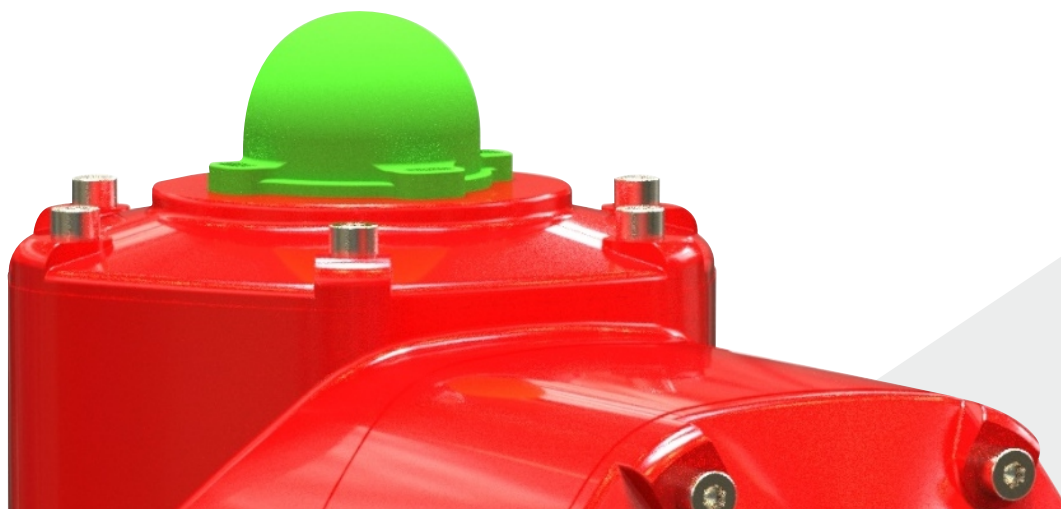
POSITION INDICATION

- 2 LEDs (red/green) indicate the position (close/open) at ends of travel, 3rd LED, Blue for faults.
- During operation, LED blinks depending on open or close cycle.
- Red and green LED can be freely assigned to open or closed positions.



GLOWDAPT

- The entire dome lights up RED or GREEN, depending upon the position.
- Shatterproof polycarbonate milky white dome.
- High luminous LED can be observed from a distance.



POSITION MONITORING

ROTARY

- ROTEX EHF-COMPACT is equipped with contactless feedback sensors (if opted for).
- 360° with freely rotating contactless feedback shaft.
- No dead angle. Can start anywhere and end anywhere.
- Contactless, high resolution feedback.
- Position feedback of 4-20 mA.

LINEAR

- Contactless feedback device.
- Speed up to 0.2 sec for 25mm.
- Position feedback of 4-20mA.

END POSITION FEEDBACK

ROTARY

- 3 micro-switches (two for internal use, one for end user) to detect open close positions.
- Spring loaded cam for precise setting.
- Potential free contacts available at built in junction box.

LINEAR

- Not installed on linear cylinder. It has to be installed externally.
- Contact ROTEX for further clarification.

PRESSURE MONITORING

- Actuator torque/force is measured based on pressure.
- Pressure transducer is integrated inside the hydraulic control system.
- Real time feedback from the pressure transducer is recorded and diagnostics information is generated based on parameterisation.
- It can detect over pressure, low pressure, "valve stuck", hydraulic failure, etc if any.

ESD RESET

- ROTEX EHF COMPACT actuator has safety feature as built in priority.
- Once an ESD demand occurs, the actuator can reinstate only new command to operate or can be configured to manual reset through local controls via setting menu.
- This increases overall process and personal safety.

FAIL FREEZE OPTION

- Main power supply is unreliable and is not part of functional safety.
- On failure of main power supply the operation of the actuator or the valve position is unaffected.
- ESD solenoid valve is separately powered through a 24 VDC ESD input signal and is solely responsible for safety function.

EMERGENCY SHUTDOWN

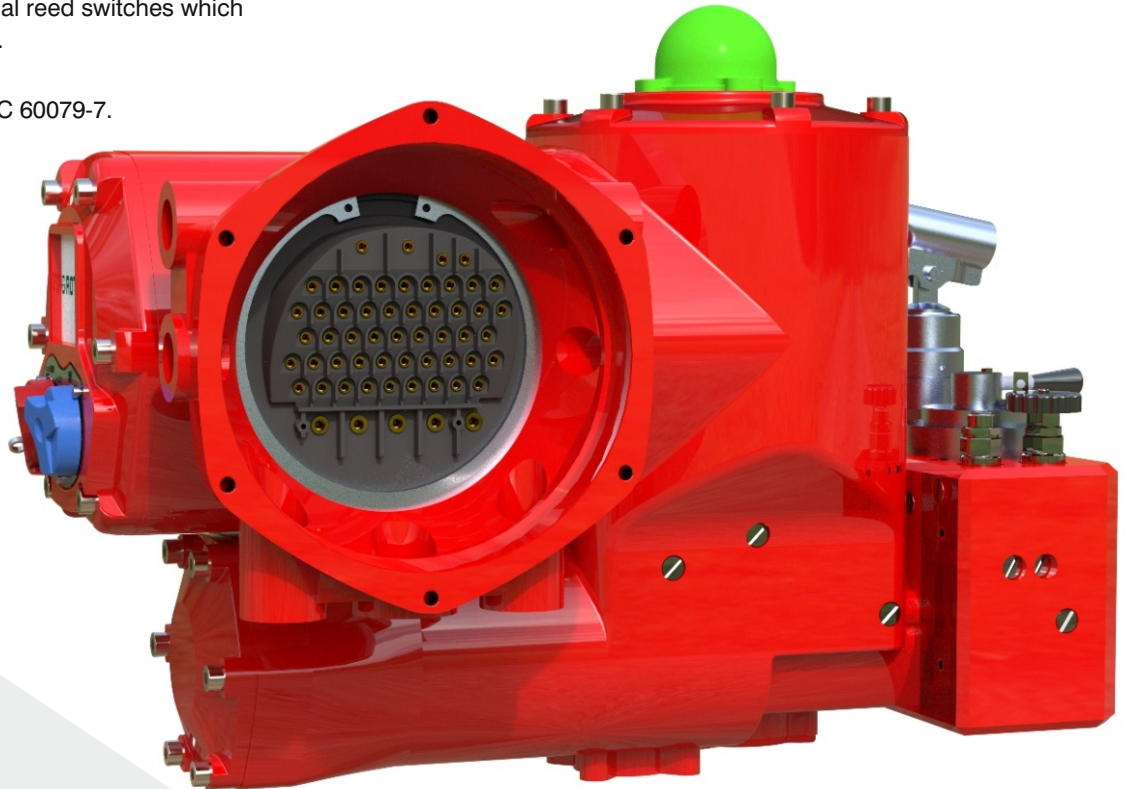
- On demand emergency shutdown is the primary feature.
- ROTEX EHF system is suitable for use in SIS function in accordance to IEC 61508:2010.
- Suitable upto & including SIL 2 & SIL 3 capability.
- Can be configured through hardware for safety function or can be hardwired to perform fail-safe action.
- EHF can be configured to different failure requirements, please refer to the ordering code.

FAILSAFE OPTION

- Failsafe action can be performed based on following
 - On loss of ESD signal or ESD demand occurs
 - On loss of main power supply. In applications where main power is part of SIS.
- In both the above cases, the valve will be driven to its failsafe position in case of failure of main power supply or ESD demand.
- ESD Input signal - 20 to 60 VDC or 60 to 120 VAC, 110 to 220 VAC.

DOUBLE SEAL COMPARTMENT

- Two barriers fitted with O-rings ensures optimum protection against water ingress into the electronic compartment.
- This protection remains effective even if the cover has not been closed properly or if the cable glands have not been tightened.
- Protection is also ensured for the local control selectors thanks to internal reed switches which prevent moisture ingress.
- Designed as per Ex e, IEC 60079-7.

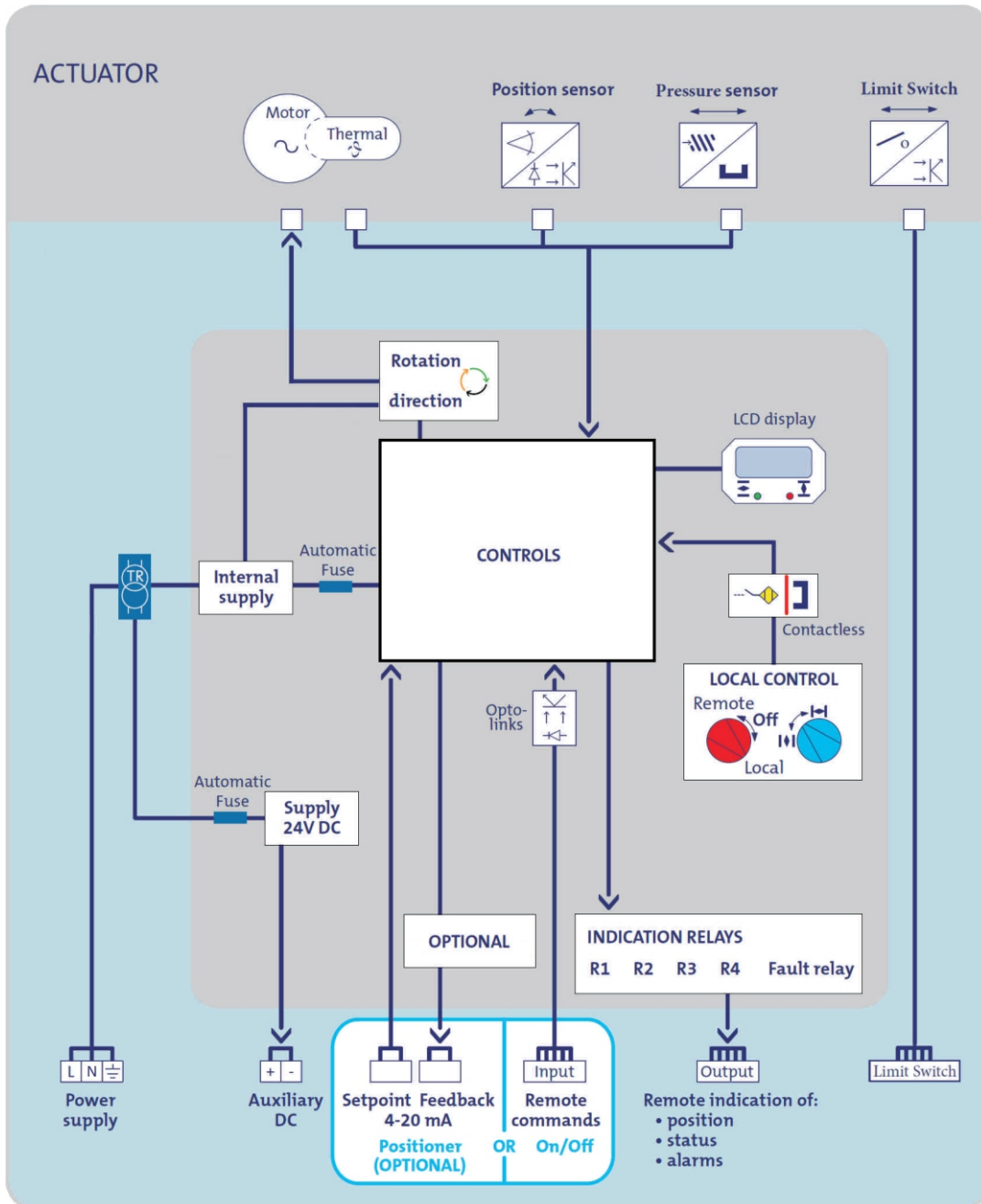


NON-INTRUSIVE

- ROTEX EHF-COMPACT actuator can be setup non-intrusively; calibration, pressure settings, and other operational settings without opening any of the covers.
- Bluetooth communication (optional) - Bluetooth technology which uses radio signals to communicate between the mobile app for monitoring actuator status, edit menu and operational settings/configurations.



CONTROL LAYOUT



- Strong and reliable electronics architecture.
- Epoxy painted to ensure long life against moisture ingress.
- Hardware, software are well proven using methodology softwares and validation softwares to avoid bugs and infinite loops.
- All integration goes through stringent quality checks to ensure long life.
- Potential free relays to support outputs and alarm configurations.

PARTIAL STROKE TEST

Partial stroke test (PST) is a method to check, detect and ensure availability of safety function on demand. PST physically moves the valve to a predefined position, without affecting or disturbing the current process requirement.

Partial stroke test can prevent unexpected failure of safety function and provides information on current health status of valve and actuator.

- 30 records are maintained
- Can be conducted using local command switches
- ROTEX provides service to study the results and provide diagnosis

Partial stroke test can be initiated through -

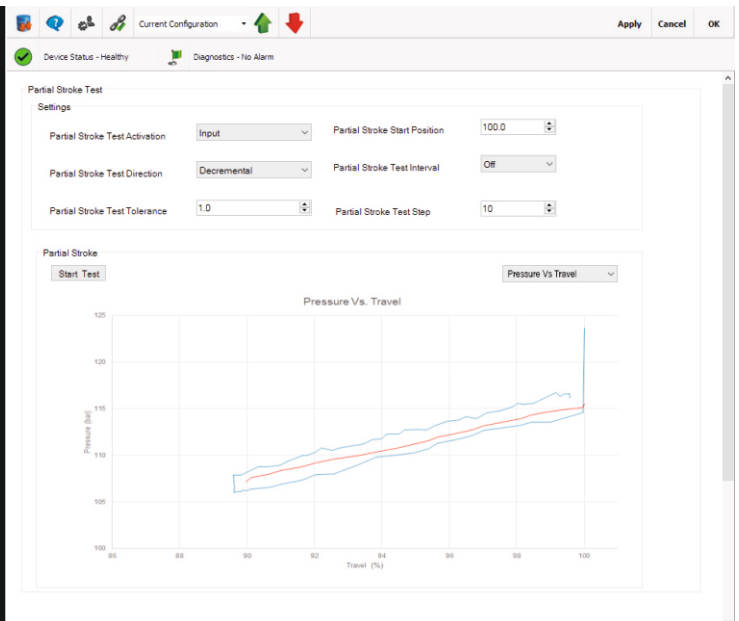
- Handheld
- Remote push button or binary input
- DTM / EDD using asset management system
- Pre-defined configured time interval

ROTEX EHF series actuator has safety or demand as priority. Any other demands override the test.

Test will be aborted and returned to normal operation in case of-

- Partial stroke fails
- Push button is held >5 seconds
- Safety DEMAND occurs

Partial stroke test results can be saved and compared over the course of time.





DIAGNOSTICS

- **Diagnostics available through Local Display, Bluetooth or Communication Network**
- Logical trend and histogram.
- Diagnostics with errors and recommendation.
- Alarm based on different threshold.
- On screen notification up to last 3 alarms or errors.
- Online monitoring.

DIAGNOSTICS CAN IDENTIFY THE FOLLOWING ISSUES -

Valve Faults

- Valve clogging
- Valve seat or valve build-ups
- Seat erosion
- Increase in friction
- Valve tightness

Actuator Faults

- Friction
- Spring failure
- Leakage through bush, diaphragm, seals, covers, connections

Device Failure

- Electronics failure
- Pressure sensor failure
- Feedback sensor failure

External Faults

- Unexpected change in supply pressure, (sudden drop or increase)
- Change in rate of flow or change in ΔP across the valve

- Monitoring parameter can be configured with three different threshold levels.
- Each threshold level can be classified based on severity and generates a digital feedback signal, once triggered.
- Colour code represents nature of severity (can be communicated on HART to control system).
- This enables users to take necessary preventive action.



COMMUNICATION

The fieldbus, present on a large number of installations, is used more and more to communicate information and commands with multiple actuators and devices wired in series on a single pair of wires. Thus, the number of information available from each actuator can be multiplied while reducing the overall cost of wiring on the site.

ROTEX EHF-Compact can be connected to most of the standard fieldbus available on the market:

- PROFIBUS DP
- FOUNDATION FIELDBUS
- MODBUS RTU
- HART
- Other Fieldbus on demand



For more security, redundant fieldbus ensures continuous operation, even in case of a bus line disruption. Indeed, all elements of the bus line (bus controller, lines, actuators interfaces) are doubled.

OPEN VERSUS PROPRIETARY SYSTEMS:

Two physical concepts of fieldbus are available from various providers.

- The «Proprietary» so-called system: This is a technology designed by a device manufacturer for his own needs. A «Proprietary» system not only includes the actuators with the specific bus interface, but also the bus controller located at the line head-end. Only the products proposed by the bus controller manufacturer can be installed on the bus.
- «Open» systems: One using standard international fieldbuses so various manufacturers can supply compatible controllers and interfaces. This type of technology is proven, reliable and offers fast response time.



The functionality of EHF-COMPACT can meet any technical specification for PNEUMATIC, ELECTRIC OR HYDRAULIC actuators.

TORQUE DETAILS

DOUBLE ACTING

ACTUATOR MODEL	START (Nm)	RUN (Nm)	END (Nm)
EHF75	227	108	167
EHF230	557	264	409
EHF400	1150	545	845
EHF1250	2062	977	1515
EHF2000	3360	1593	2469

SINGLE ACTING

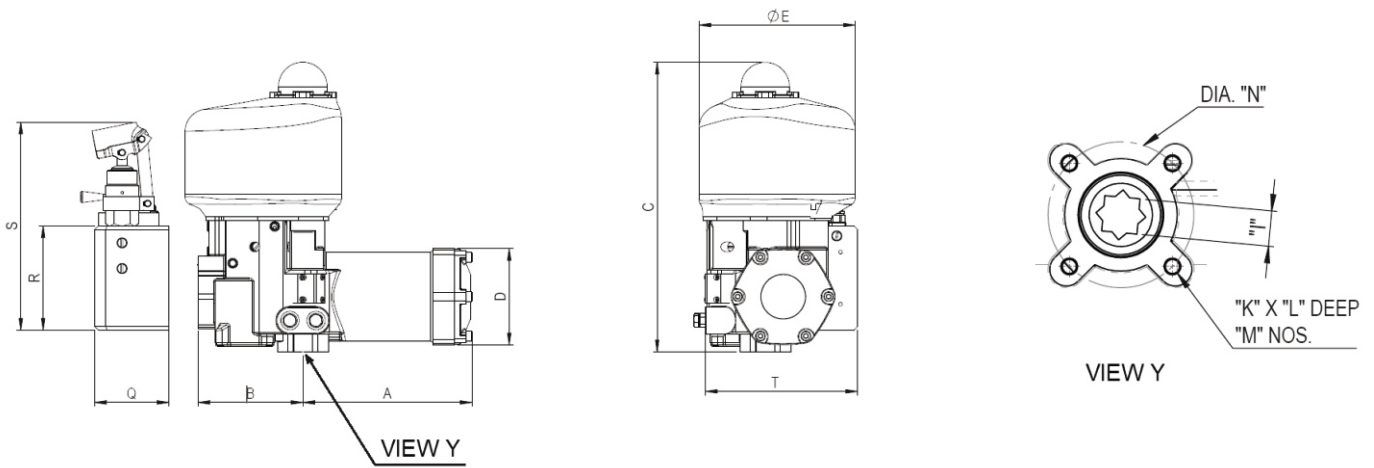
ACTUATOR MODEL	Hyd Start (Nm)	Hyd Run (Nm)	Hyd End (Nm)	Spring Start (Nm)	Spring Run (Nm)	Spring End(Nm)
EHF75	133	51	119	108	57	94
EHF230	311	117	281	276	147	246
EHF400	671	249	583	568	297	480
EHF1250	1120	419	1023	1039	559	943
EHF2000	1824	683	1668	1693	910	1536

TECHNICAL DETAILS

ACTUATOR MODEL	DA/SA Opening TIME (sec)	DA Closing Time (sec)	SA Closing Time (sec)	Power DA/SA stroke, steady	Weight DA (Kgs)	Weight SA (Kgs)
EHF75	6	6	> 2	130 W , 30 W	57.0	65.0
EHF230	7	7	> 2	130 W , 30 W	67.0	79.0
EHF400	13	9	> 3	160 W , 30 W	82.0	96.0
EHF1250	29	11	> 3	160 W , 30 W	98.0	109.5
EHF2000	37	15	> 5	200 W , 30 W	121.0	145.0

DIMENSIONAL DETAILS

EHF-BASIC MODEL

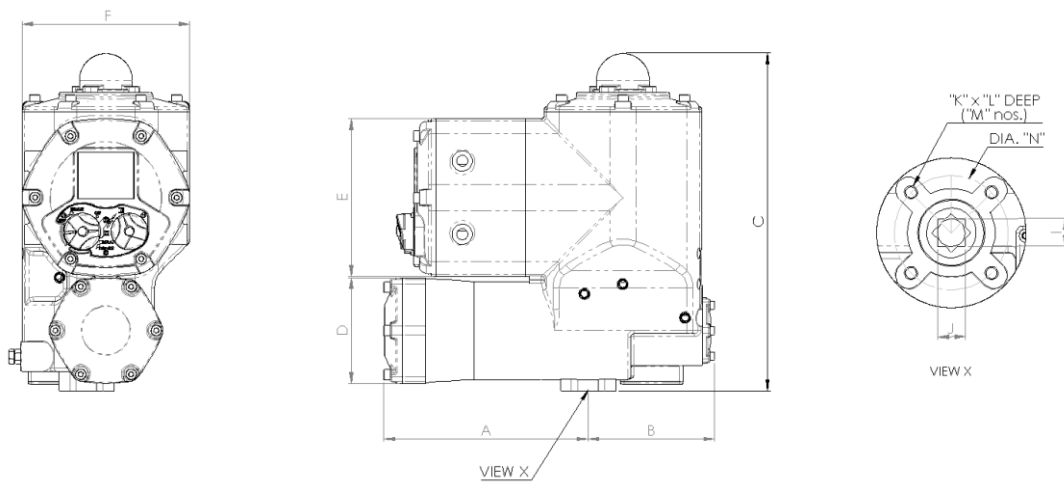


MODEL	A	B	C	D	E	Q	R	S	T	I Sq.	K	L	M	N	F-size
EHF-B-75	230	160	390	130	210	100	140	280	200	17	M8	16	4	70	F07
EHF-B-230	280	170	420	155	210	100	140	280	200	17	M8	16	4	70	F07
EHF-B-400	330	175	455	185	210	100	140	280	200	22	M10	20	4	102	F10
EHF-B-1250	400	185	480	210	210	100	140	280	200	36	M16	30	4	140	F14
EHF-2000	470	200	500	210	210	100	140	280	200	36	M16	30	4	140	F14

DIMENSIONAL DETAILS

EHF-INTELLIGENT MODEL

HORIZONTAL CONFIGURATION - STANDARD VERSION

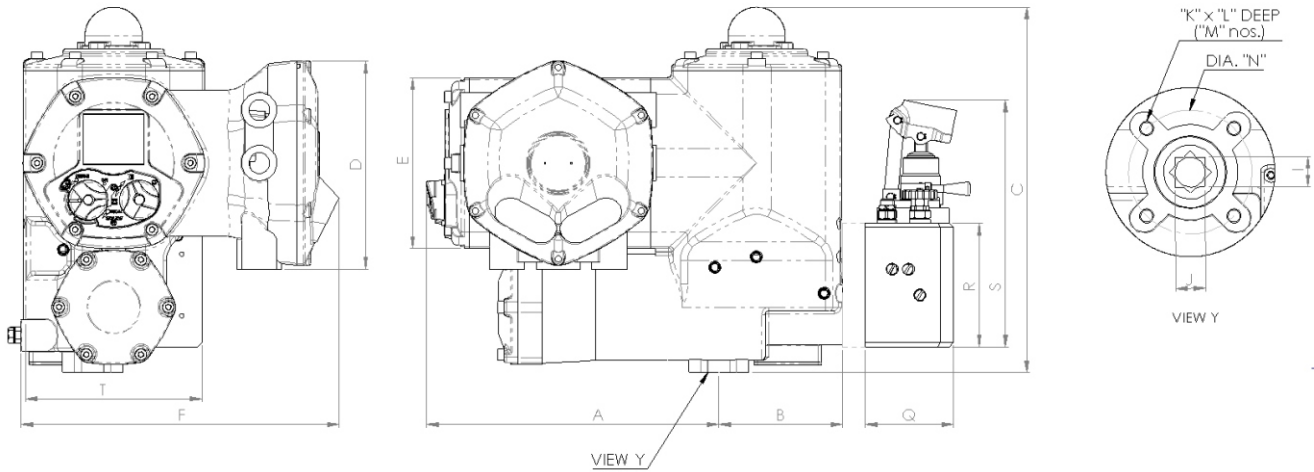


MODEL	A	B	C	D	E	F	I Sq.	K	L	M	N	F size
EHF-I-75	251	156	415	129	194	206	17	M8	16	4	70	F07
EHF-I-230	301	163	448	156	194	206	17	M8	16	4	70	F07
EHF-I-400	354	172	479	183	194	206	22	M10	20	4	102	F10
EHF-I-1250	422	183	503	210	194	212	36	M16	30	4	140	F14
EHF-I-2000	490	199	523	240	194	245	36	M16	30	4	140	F14

DIMENSIONAL DETAILS

EHF-INTELLIGENT MODEL

HORIZONTAL CONFIGURATION - FULLY LOADED VERSION

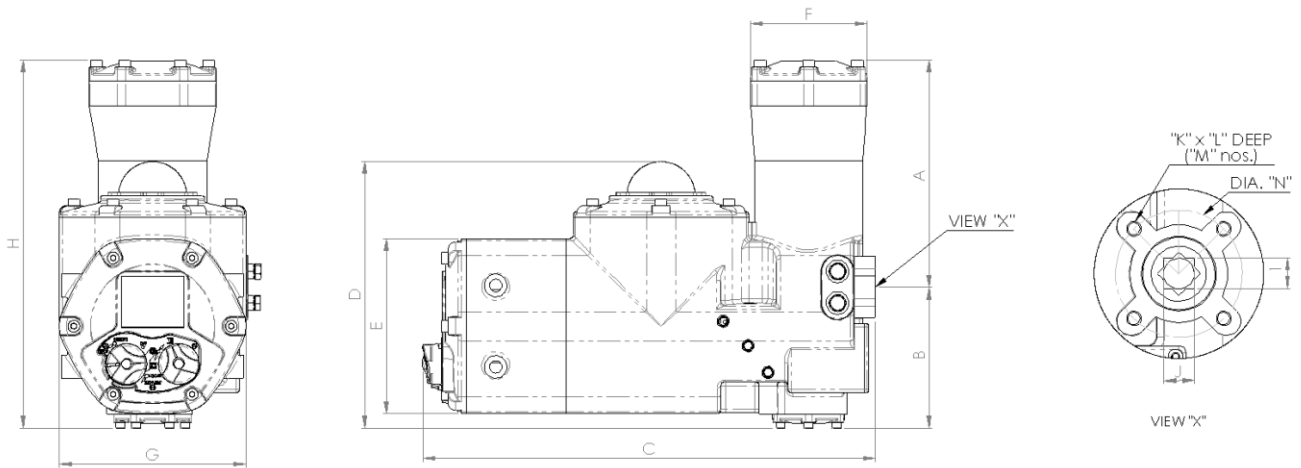


MODEL	A	B	C	D	E	F	Q	R	S	T	I Sq.	K	L	M	N	F size
EHF-I-75	331	141	415	236	194	361	100	140	280	200	17	M8	16	4	70	F07
EHF-I-230	331	148	448	236	194	361	100	140	280	200	17	M8	16	4	70	F07
EHF-I-400	354	157	479	236	194	361	100	140	280	200	22	M10	20	4	102	F10
EHF-I-1250	422	168	503	236	194	370	100	140	280	200	36	M16	30	4	140	F14
EHF-I-2000	490	184	523	236	194	400	100	140	280	200	36	M16	30	4	140	F14

DIMENSIONAL DETAILS

EHF-INTELLIGENT MODEL

VERTICAL CONFIGURATION – STANDARD VERSION

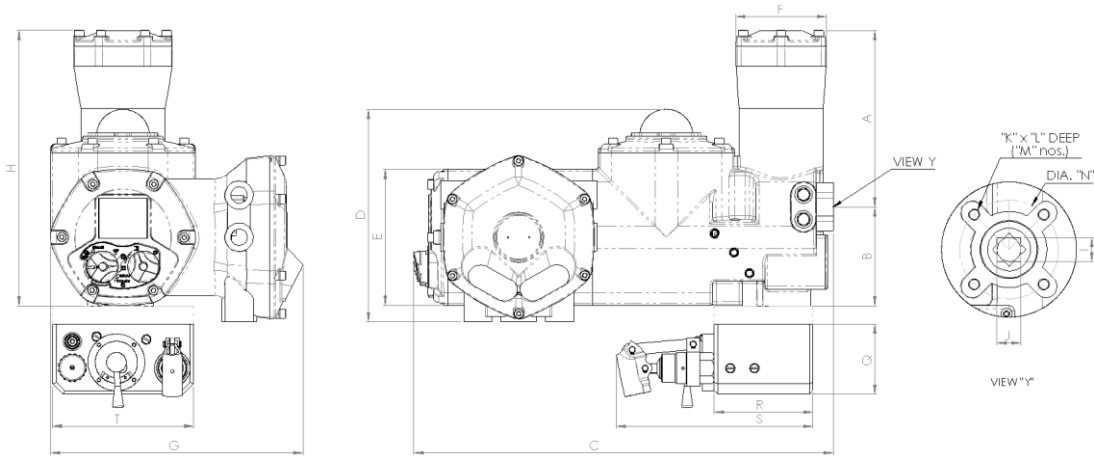


MODEL	A	B	C	D	E	F	G	H	I Sq.	K	L	M	N	Fsize
EHF-I-75	251	156	500	294	194	129	206	407	17	M8	16	4	70	F07
EHF-I-230	301	163	535	294	194	156	206	464	17	M8	16	4	70	F07
EHF-I-400	354	172	565	294	194	183	206	526	22	M10	20	4	102	F10
EHF-I-1250	422	183	590	294	194	210	212	605	36	M16	30	4	140	F14
EHF-I-2000	490	199	610	294	194	240	245	690	36	M16	30	4	140	F14

DIMENSIONAL DETAILS

EHF-INTELLIGENT MODEL

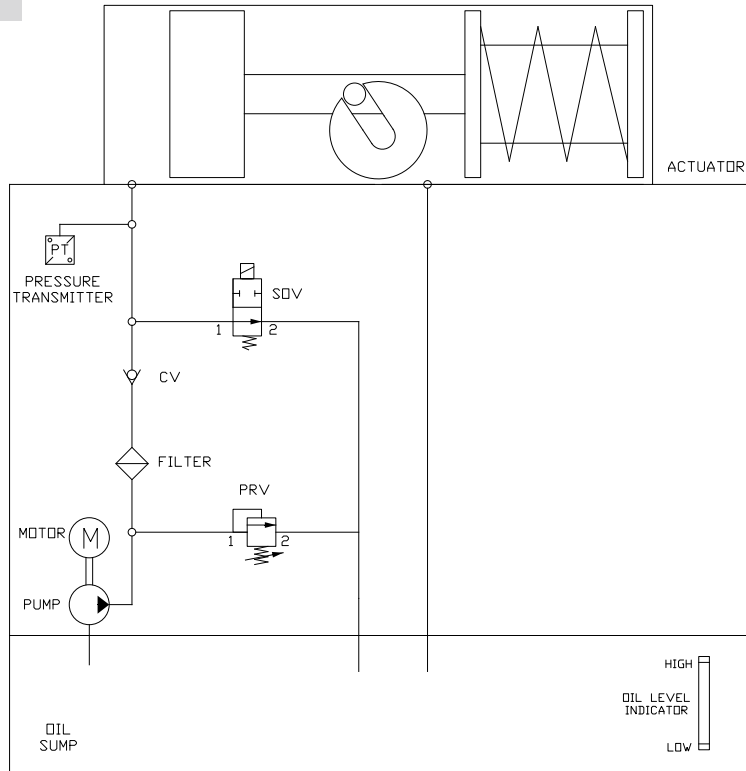
VERTICAL CONFIGURATION – FULLY LOADED VERSION



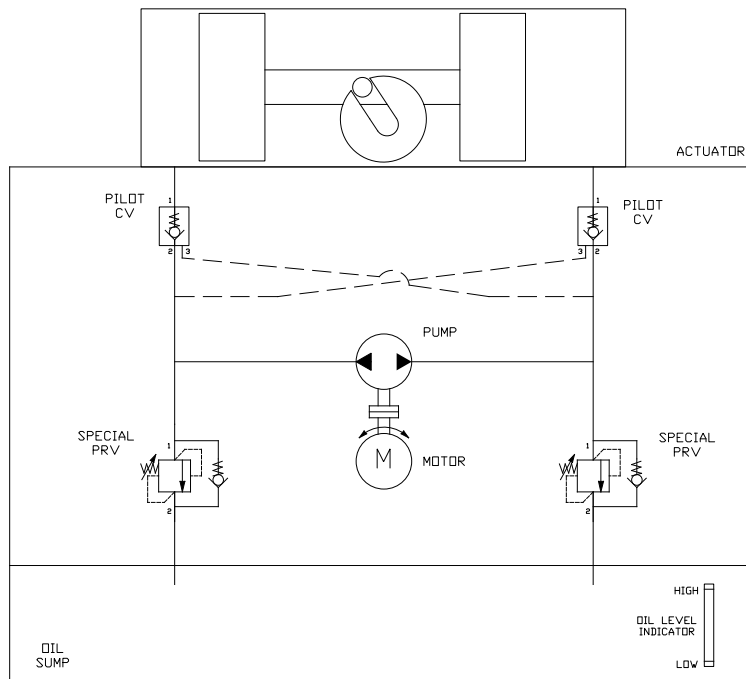
MODEL	A	B	C	D	E	F	G	H	Q	R	S	T	I Sq.	K	L	M	N	Fsize
EHF-I-75	331	141	596	302	194	129	359	392	100	140	280	200	17	M8	16	4	70	F07
EHF-I-230	331	148	631	302	194	156	359	449	100	140	280	200	17	M8	16	4	70	F07
EHF-I-400	354	157	661	302	194	183	359	510	100	140	280	200	22	M10	20	4	102	F10
EHF-I-1250	422	168	686	302	194	210	363	590	100	140	280	200	36	M16	30	4	140	F14
EHF-I-2000	490	184	706	302	194	240	393	595	100	140	280	200	36	M16	30	4	140	F14

SCHEMATICS

SINGLE ACTING

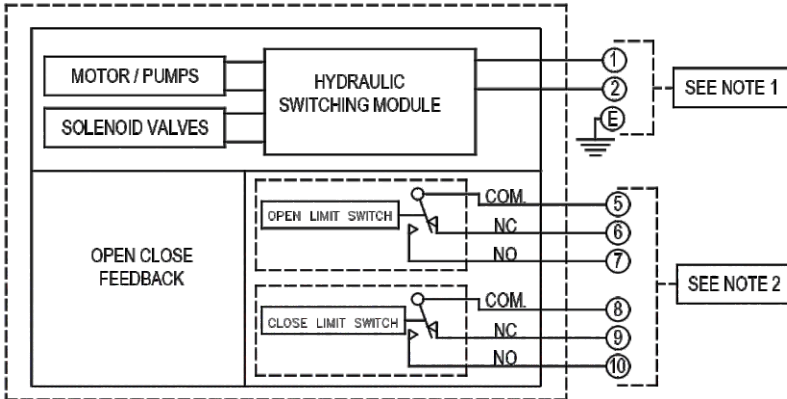


DOUBLE ACTING



WIRING DIAGRAM

SINGLE ACTING



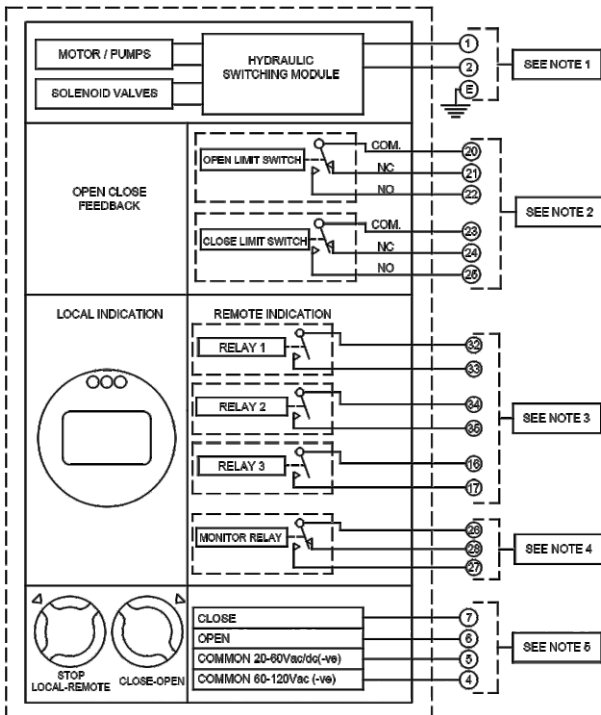
NOTE-1

220 VAC SINGLE PHASE	LINE	TERMINAL-1
	NEUTRAL	TERMINAL-2

NOTE-2

LIMIT SWITCH FEEDBACK FOR OPEN AND CLOSE POSITION

DOUBLE ACTING



NOTE-1

220 VAC SINGLE PHASE	LINE	TERMINAL-1
	NEUTRAL	TERMINAL-2

NOTE-2

LIMIT SWITCH FEEDBACK FOR OPEN AND CLOSE POSITION.

NOTE-3

CONFIGURABLE RELAYS CAN BE CONFIGURED FOR ANY ONE OF THE FOLLOWING (DEPENDING ON THE SPECS AVAILABLE):

- | | |
|-------------------------|------------------------------|
| 1. OPEN LIMIT | 14. MANUAL MODE |
| 2. CLOSE LIMIT | 15. PST PASS |
| 3. ALARM / FAULT | 16. PST FAIL |
| 4. THERMOSTAT TRIP | 17. PST ACTIVE |
| 5. SYSTEM PRESSURE HIGH | 18. POSITION OVER RANGE |
| 6. STALL | 19. POSITION UNDER RANGE |
| 7. PUMP ON | 20. AMBIENT TEMPERATURE HIGH |
| 8. PUMP OFF | 21. PRESSURE SENSOR ERROR |
| 9. PUMP FAIL | 22. VALVE CLOSING |
| 10. MOTOR RUNNING | 23. VALVE OPENING |
| 11. STOP SELECTED | 24. VALVE MOVING |
| 12. LOCAL SELECTED | 25. EEPROM ERROR |
| 13. REMOTE SELECTED | 26. PRESSURE STATUS |

NOTE-4

MONITORS ACTUATOR AVAILABILITY.

NOTE-5

DIGITAL CONTROL SIGNALS
20-80 VAc/dc OR 60-120 VAc

OPTIONAL FEATURES

NOTE-6

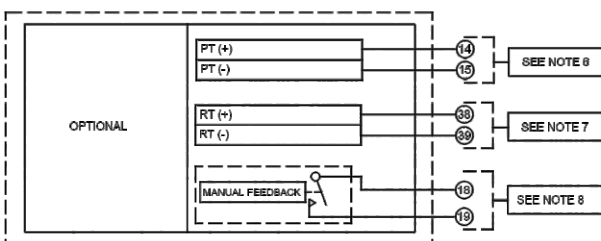
POSITION FEEDBACK (4-20mA)

NOTE-7

PRESSURE FEEDBACK (4-20mA)

NOTE-8

HANDPUMP OPERATION FEEDBACK



TECHNICAL SPECIFICATIONS

TORQUE RANGE	Torque	50 to 3,000 Nm
ENCLOSURE PROTECTION	Construction	Std.: Carbon Steel body & Aluminum covers Optional: Stainless Steel SS316/CF8M
	Ingress Protection	Std.: Upto IP67 Optional: Upto IP68 10m/96h
	Controls Location	As standard, the controls are integral to the actuator On option, the Controller can be mounted in a separated box (maximum distance between actuator and controls = 50m)
	Explosion Proof ATEX	ATEX Directive 94/9/EC - CENELEC EN 60079-0, EN60079-1, EN13463 As standard: Ex d II B T4 (option T5 or T6) and Ex tb IIIC T135°C (option T100°C, T85°C) On request: Ex d II C T4 (option T5 or T6)
	Explosion Proof IEC Ex	IEC Ex - standard IEC 60079-0, IEC60079-1, EN13463 As standard: Ex d II B T4 (option T5 or T6) and Ex tb IIIC T135°C (option T100°C, T85°C) On request: Ex d II C T4 (option T5 or T6)
	Ambient Temperature Operating Range	<ul style="list-style-type: none"> IIB standard: -20 ... +70°C IIB low temperature option: -60 ... +70°C IIC option: -20 ... +70°C
	External Corrosion Protection	Standard paint system: Polyuréthane 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

TECHNICAL SPECIFICATIONS

MECHANICAL SPECIFICATIONS	Manual override	Hydraulic Handpump
	Vibration Resistance	1g (9.8 m/s ²) at 10-500 Hz (Contact our marketing dept. 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"> • Single-phase: 110, 120 & 230 V - 50/60 Hz • Three-phase: 380, 400, 415, 440, 480, 575, 690 V - 50/60 Hz • Voltage tolerance: ±10% • Frequency tolerance: ±5%
	Cable Entries	Standard configuration: <ul style="list-style-type: none"> • Power & signal: M20 x 4nos. OR 1/2" NPT x 4nos. Other configurations available on request: plugs, adaptors, ISO thread
POSITION AND PRESSURE SENSORS	Position	<ul style="list-style-type: none"> • Potentiometer • Contactless sensor (optional)
	Pressure	Pressure measured by pressure transducer
	Display	TFT display
	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 information 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 configurations (selectable): <ul style="list-style-type: none"> • Input signal: 4-20 mA / 0-20mA - output signal: 4-20mA
	Transmitter (option)	Proportional position (0/4-20 mA)
	Limit Switches	<ul style="list-style-type: none"> • 4 Mechanical Limit Switch (SPDT): 120/230 VAC or 30 VDC • Proximity Limit Switch NO/NC (Optional): 5-60 VDC

TECHNICAL SPECIFICATIONS

SETTINGS	Settings	Non-Intrusive. All actuator settings and parameters are stored in a non-volatile EEPROM memory. Protection by password. Can be done by local command, optional bluetooth link
	Local selectors	The Controller can be fully set via its local display and selectors Does not require any specific setting tool

FIELD BUS CONTROLS	Profibus DPV1 (option)	<ul style="list-style-type: none"> • PROFIBUS-DPV1 - RS 485 • Baud rate: 9.6 kbit/s up to 1.5 Mbit/s (autodetection) • Communication protocol: PROFIBUS DPV1 slave-cyclic & acyclic • Type of connection: single line (standard) or redundant line (option) • Cable specification: Profibus certified cable only • Line connection without repeater <ul style="list-style-type: none"> - Actuators per line: 31 max. - Line length: 1.2 km max. (0.75 mi) • Line connection with repeaters <ul style="list-style-type: none"> - Number of repeaters per line: 9 max - 30 actuators and 1 Km max. per segment. - Number of actuators per line with repeater: 124 maximum - Line length with 9 repeaters: 10.2 km max. (6.2 mi) • Scan speed (30 units & 1.2 km): 0.1s (at a baud rate of 93.75 Kbit/s)
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FIELD BUS CONTROLS	Modbus (option)	<ul style="list-style-type: none"> • MODBUS RTU - RS 485 • Transmission medium: 1 shielded pair cable • Functions: Half Duplex, asynchronous mode, multidrop • Baud rate: 1.2k to 115 Kbit/s • Format: 8 data bits, 1 stop bit, no parity • Communication protocol: Modbus (slave) • Modbus address: configurable by the actuator menu
	Foundation Fieldbus (option)	<ul style="list-style-type: none"> • H1 speed = 31.25kBit/s • Fully compliant with fieldbus standard IEC 61158 • Physical layer: IEC 61158-2, 2 wires communication • Current consumption: 20mA • Operating voltage: 9 to 32 VDC • Cable specification: Type A (for example: 3076F Belden) • Line connection <ul style="list-style-type: none"> - Actuators per line without repeater: 31 max. - Line length without repeater: 1.9 km max. (1.2 mi) - Number of repeaters per line: 4 max. - Maximum number of actuators and line length depends on consumption available • Technical approval: Foundation tested. Several DCS manufacturer operability checked.
	HART (option)	<p>Interface: HART, 4-20mA current, FSK modulation Transfer speed: 1.2 kbit/s Protocol: HART 7.4 Impedance: 250 Ohms Actuator configuration: Available through EDD file / DTM</p>

ORDERING CODE

1		2		3		4	
PRODUCT SERIES		ACTUATOR SIZE ⁽¹⁾ *		OPERATION		ACTION	
Code	Description	Code	Description	Code	Description	Code	Description
EHF-B	Basic Version	0075C1, 0230C1, 0230C2, 0230C3, 0400C1, 1245C1, 2000C1	Size	OO	On-Off	E	Single acting
EHF-I	Intelligent Version			MO	Modulating	D	Double acting

⁽¹⁾Many more models can be added

5		6		7		8	
MOUNTING POSITION		ROTATION DIRECTION		TEMPERATURE		BODY / COVER MATERIAL	
Code	Description	Code	Description	Code	Description	Code	Description
S	Horizontal	CC	Spring to rotate clock wise (Fail safe close)	NB	-20°C to +70°C	WC	Std. Carbon Steel body & Aluminum covers
V	Vertical	CW	spring to rotate counter clockwise (Fail safe open)	FS	-60°C to +70°C		
		DD ⁽²⁾	Bi-directional	AV	-20°C to +85°C	8M	Stainless Steel SS316/CF8M

⁽²⁾Default for Double Acting option

9		10		11	
Hand pump		POWER SUPPLY		ESD POWER SUPPLY	
Code	Description	Code	Description	Code	Description
HN	None	N	415/440 V 3ph 50 Hz	NE ⁽⁴⁾	No ESD
HB ⁽³⁾	Hyd. hand pump w/o feedback	F	220 V 3ph 50/60 Hz	AA	24 V DC
HF	Hyd. hand pump with feedback	D	220 V AC 1ph	CC	110 V AC 50/60 Hz
		B	110 V AC 1ph	EF	220 V AC 50/60 Hz
		A	24 V DC	AF	24 V DC with flow control
				CF	110 V AC 50/60 Hz with flow control
				EF	220 V AC 50/60 Hz with flow control

⁽³⁾Option available only for EHF-B

⁽⁴⁾Default option for EHF-B

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TRANSMITTER	
Code	Description
NT ⁽⁵⁾	None
PT	Position
RT ⁽⁶⁾	Pressure
BT	Position + Pressure

⁽⁵⁾ Only applicable for EHF-B

⁽⁶⁾ Standard feature for EHF-I

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LIMIT SWITCH	
Code	Description
1A2	Honeywell switch
3A2	P&F NJ2V3N

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CABLE ENTRIES			
Standard Version		Junction box	
Code	Description	Code	Description
SM0	M20 x 4nos.	TR0	1 1/4"NPT(F) x 1no., 3/4"NPT(F) x 6nos.
SR1	1/2" NPT x 4nos.	TR1	1 1/4"NPT(F) x 1no., 3/4"NPT adapted to 1/2"NPT(F) x 6nos.
		TR2	1 1/4"NPT(F) x 1no., 1"NPT adapted to 1/2"NPT(F) x 6nos.
		TR3	1 1/4"NPT adapted to 1" NPT(F) x 1no., 3/4"NPT adapted to 1/2"NPT(F) x 6nos.
		TR4	1 1/4"NPT(F) x 1no., 3/4"NPT adapted to 1"NPT(F) x 6nos.
		TR5	1 1/4"NPT adapted to 3/4" NPT(F) x 1no., 3/4"NPT adapted to 1/2"NPT(F) x 6nos.
		TR6	1 1/4"NPT adapted to 1/2" NPT(F) x 1no., 3/4"NPT adapted to 1/2"NPT(F) x 6nos.
		2M0	M25(F) x 1no., M20(F) x 6nos.
		4M0	M25(F) x 2nos., M20(F) x 4nos.
		4M1	M25(F) x 3nos., M20(F) x 4nos.
		6M0	M32(F) x 1nos., M25(F) x 6nos.
		6M1	M32(F) x 1nos., M25(F) adapted to M20(F) x 6nos.

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COMMUNICATION ⁽⁷⁾ (Only possible with Junction box models)	
Code	Description
NC	None
FF	Foundation Fieldbus
HA	HART
MB	Modbus
PB	Profibus

⁽⁷⁾ Contact ROTEX for more options

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ADDITIONAL COMMUNICATION	
Code	Description
NN	None
BX	Bluetooth

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CERTIFICATION	
Code	Description
C0	Weather proof
C1	Exd, IEC-60079-1
C2	Exd, IEC-60079-1 + PESO
C3	ATEX, IEC 60079-1
C4	IECex, IEC 60079-1



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