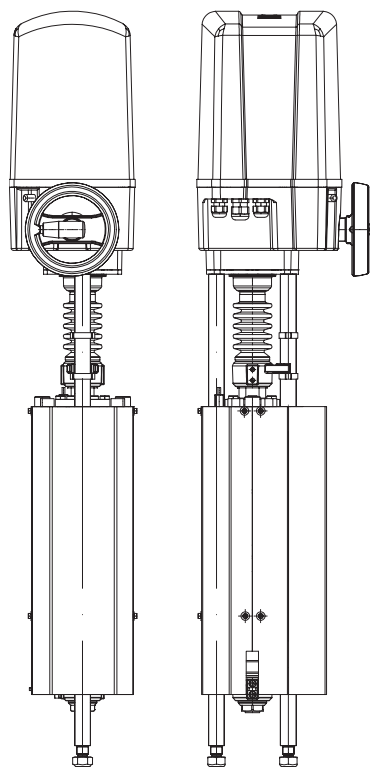


Electric thrust actuator with fail-safe function ARI-PREMIO® / ARI-PREMIO®-Plus

ARI-PREMIO®-Plus
9 kN (2023 lbf)
Electric thrust actuator
with fail-safe function

ARI-PREMIO®
9 kN (2023 lbf)
Electric thrust actuator
with fail-safe function



Features

- 2 torque switches
- Max. permissible ambient temperature
0°C to +50°C (32°F to +122°F)
(other temperatures on request)
- Enclosure IP 65
- Additional devices available, e.g. potentiometer
- Travel indicator
- Inductive switch for detecting the triggered fail-safe function
- Automatic clamping of the spring unit to restore the fail-safe function

Working principle

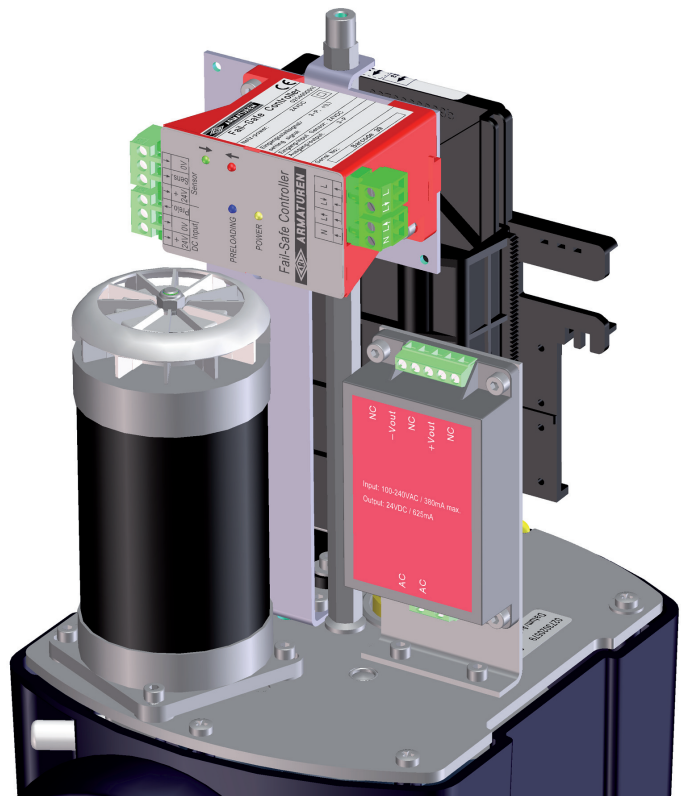
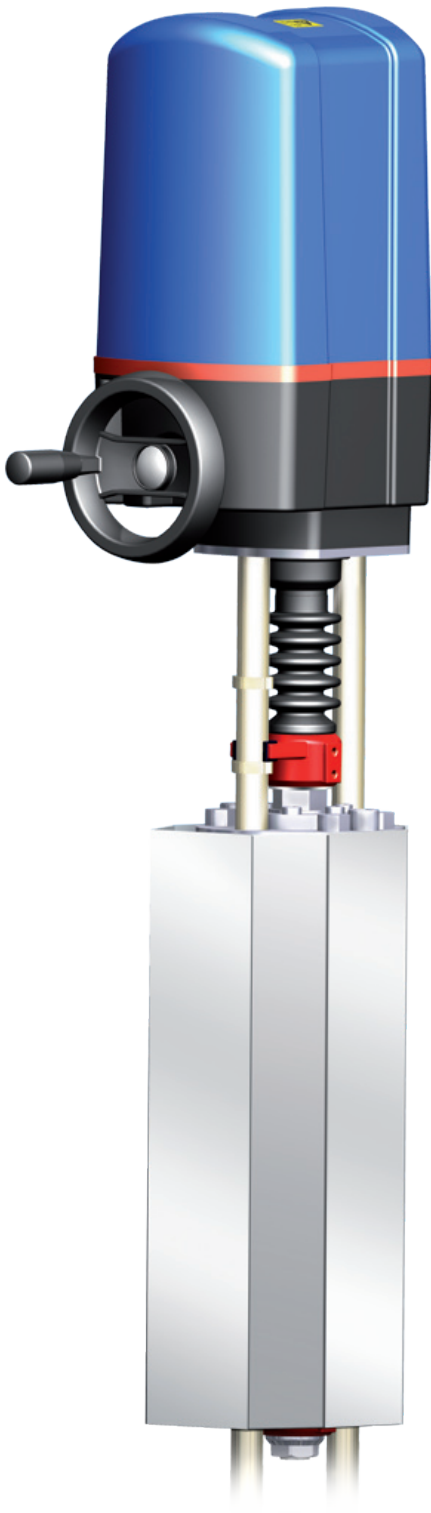
The fail-safe unit, which is located between the actuator and the valve, consists of four gas springs that are held over a toggle mechanism and an electro-adhesive magnet during normal operation. The fail-safe unit works in normal operation without any moving parts and virtually no wear. In normal operation the actuator closes up the valve with 15kN thrust force.

Putting into operation / Voltage return

When connecting the power supply, the fail-safe unit is tensioned over the built-in electronics unit. Since the actuator during the clamping process does not follow the control signal, the fail-safe controller provides a signal for the clamping process for the parent control. After the fail-safe unit is cocked, the actuator goes to the normal operation.

Power failure / mains interruptions of the fail-safe controller

Upon interruption of power supply for the fail-safe controller triggers the electro-adhesive magnet and the fail-safe unit moves the driving spindle. Depending on the stroke and the temperature achieved the fail-safe unit 9 kN clamping force (refer to table at "Technical Data").



Type	ARI-PREMIO®-Plus 9 kN (2023 lbf)		ARI-PREMIO® 9 kN (2023 lbf)
Thrust force / Closing force	9 kN (2023 lbf) (at 50 mm / 1.97 inch)		
Closing direction	extending		
Travel distance	max.	50 mm (1.97 inch)	
Duty classification in accordance with EN 60034-1/A11	S3 50% DC / max. 1200 c/h		
Control speed	0,38 mm/s (0.01 inch/s)		
Fail-safe speed	100 mm/s (3.94 inch/s)		
Motor voltage	230V - 50Hz		
Power consumption	131 VA		133 VA
	For power consumption of other voltages and frequencies refer to type plate or on request.		
Enclosure EN 60529	IP 65		
Max. storage temperature	-20 °C ... +80 °C (-4 °F ... +176 °F)		
Max. permissible ambient temperature	0°C ... +50 °C (32°F ... +122 °F) - other temperatures on request		
Top mounted handwheel	Yes (engageable)		
Operation	optional: · 3-point : 12V DC/AC to 250V DC/AC · 0 to 10V DC load resistance 470 kOhm resolution 10Bit · 4 to 20mA DC load resistance 125 Ohm resolution 10Bit		3-point with nominal voltage
Switching current	max. 4A Triac-Output		--
Input for temperature sensor	Sensor: PT1000		--
Max. cable cross section	Supply voltage:	2,5 mm² (0.0039 inch² / AWG14)	--
	3-point input:	2,5 mm² (0.0039 inch² / AWG14)	
	Control signals:	1,5 mm² (0.0023 inch² / AWG16)	
Mounting position	Horizontally to vertical above valve body (any position 90° from vertical). The actuator must be supported at horizontal orientation!		
Gear lubricant	Molyduval Valenzia H2		
Weight	27 kg (59.5 lb)		

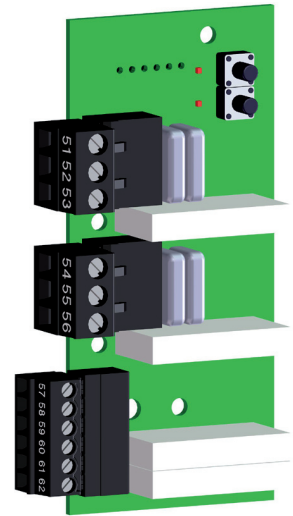
Accessories	ARI-PREMIO®-Plus 9 kN (2023 lbf)		ARI-PREMIO® 9 kN (2023 lbf)
Thrust force	9 kN (2023lbf) (at 50 mm / 1.97 inch)		
Trip slide for travel switch S3	--		for actuating travel switch S3 / retracting spindle (the travel switch S3 exists in the standard version)
Electronic position indicator	analog output for position feedback 4-20 mA, switchable to 0-10V (invertable)		--
Relay board	- 2 intermediate positions, positions settable with bush-buttons, zero potential change-over contact 230V AC 6A/3A, gold contacts - 1 failure signal and 1 warning signal, zero potential changeover contacts 50V AC/2A, gold contacts		--
Additional Travel switch Information: For low switching powers and in aggressive environments, gold contacts should be used	--		Standard: 2 additional intermediate position switches, zero potential, switching capacity 10A, 250V~
			Low voltage: 2 additional intermediate position switches, zero potential, with gold contacts, switching capacity max. 0,1A, 4-30V
Heating resistor	230V 50/60Hz ¹⁾ , 115V 50/60Hz ¹⁾ , 24V 50/60Hz ¹⁾ , 15 Watt		
Potentiometer	Maximum 2 possible - Different resistance-values: 100, 200, 500, 1000 Ohm, 1 Watt (incl. accessories)		Maximum 2 possible - Different resistance-values: 100, 200, 500, 1000 Ohm, 1 Watt Option trip slide necessary
Additional voltage / frequencies	230V 60Hz ¹⁾ , 115V 50Hz, 115V 60Hz ¹⁾ , 24V 50Hz, 24V 60Hz ¹⁾		

¹⁾ Control speed and power consumption are 20% higher at frequency of 60 Hz.

Accessories ARI-PREMIO®-Plus

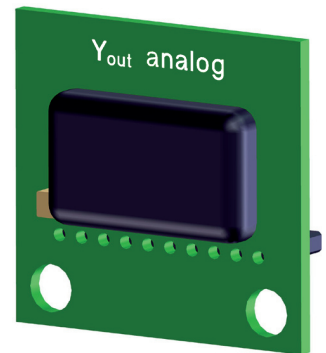
Relay card

Relais		1 (open)	1 (close)	3 warning	4 failure
Operating voltage	U _B	6A 250V		2A 30V AC/DC	
Max. cable cross section		2,5 mm² (0.0039 inch² / AWG14)		1,5 mm² (0.0023 inch² / AWG16)	
Contact material		gold			
Storage temperature		-40 °C ... +85 °C (-40 °F ... +185 °F)			
Operating temperature		-40 °C ... +60 °C (-40 °F ... +140 °F) Observe temperature range for the complete actuator			
Features:					
• Setting of the switching points over push buttons • 2 intermediate positions or end positions • 1 collect failure signal at: - Control signal failure - Position can not be achieved (motor / gear failure) - Blockage (actual) - Actuator not initialised - Power failure • 1 collect warning signal at: - Manual operating - Blockage (detected) - Position can not be achieved - Maintenance - Internal temperature exceeded - ED management active - To small travel during initialisation					



Analog output card

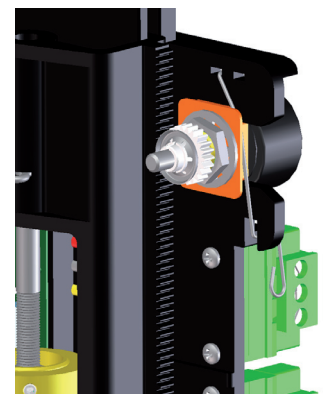
Output control signal	Y _U	0 -10V DC Measuring resistance (load resistance) Signal resolution	max. 2 kOhm load resistance · 8 Bit
Output control signal	Y _I	4 -20mA DC Measuring resistance (load resistance) Signal resolution	max. 500 Ohm · 8 Bit
Features:			
for position transmitter			



Accessories ARI-PREMIO®

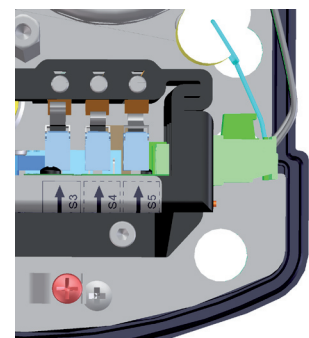
Potentiometer

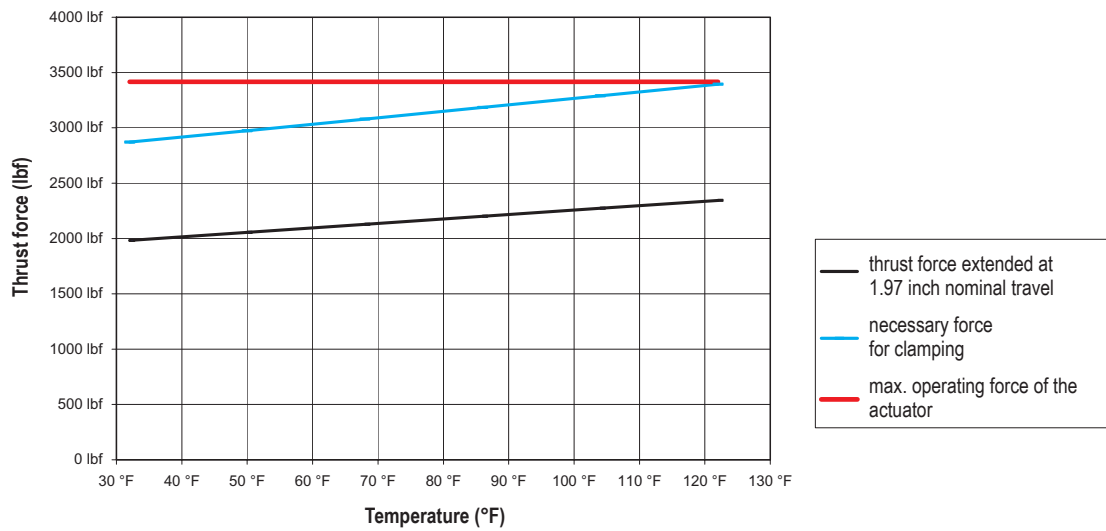
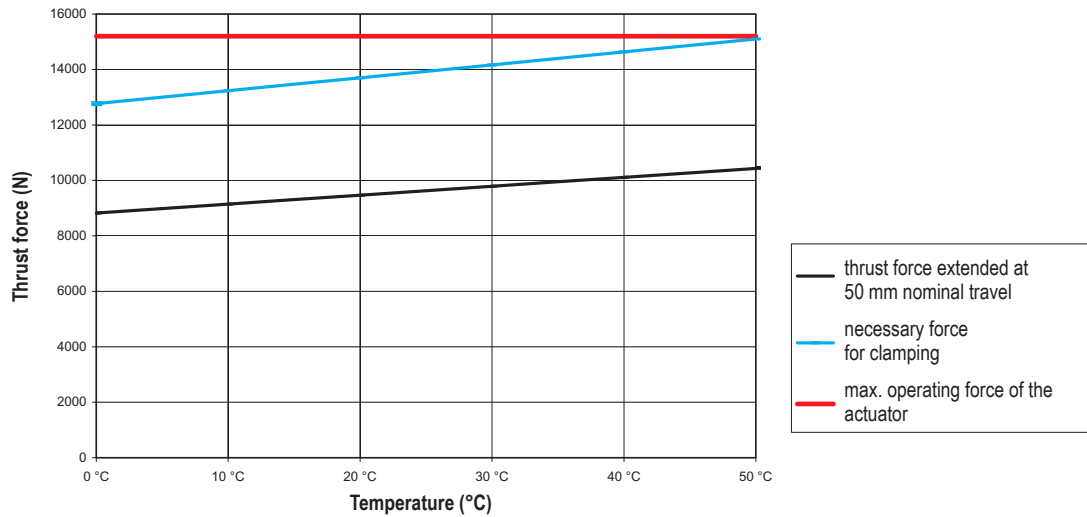
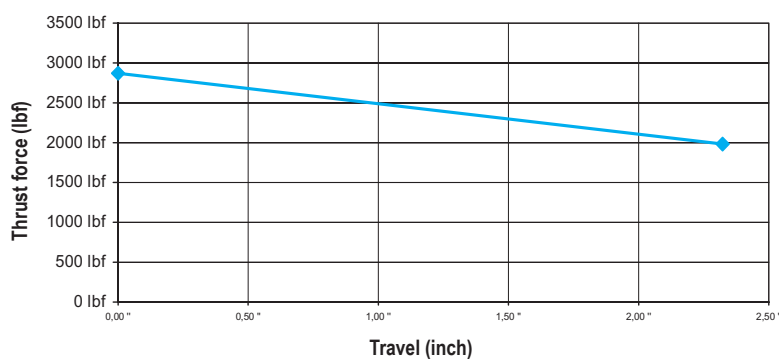
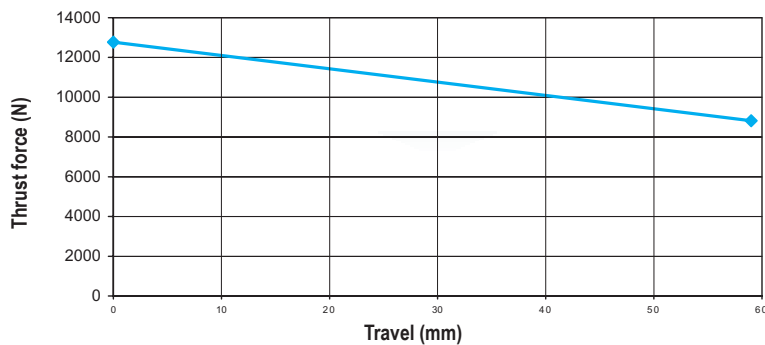
Type	MP21 (Standard)	RP19
Electric resistance values	500 Ohm, 1k Ohm, 2k Ohm, 5k Ohm	100 Ohm, 200 Ohm
Technology	Conductive plastic	Wire
Resistance tolerance	±15 %	±3 %
Independent linearity tolerance	±1 %	±0,5 %
Capacitance at +40°C / 104°F (0 W at 125°C / 257°F)	1 Watt	0,5 Watt
Max. / wiper current	10 / 2 µA	35 / 0,1 mA
Max. cable cross section	2,5 mm ² (0.0039 inch ² / AWG14)	
Durability	10 Mio. turns	1 Mio. turns



Additional travel switches (S4 and S5)

Type	Standard	Low voltage
Contact material	AgNi	AgNi gold plated
Nominal switching capacity	10A, 250V AC	max. 0,1A, 4-30 V
Function	Changeover contact %	
Mechanical durability	10 Mio. switching operations	
Approvals	UL 1054	
Max. cable cross section	2,5 mm ² (0.0039 inch ² / AWG14)	



Thermal characteristic: Gas springs of the fail-safe unit

Fail-safe force depending on the travel (at 0°C / 32°F)


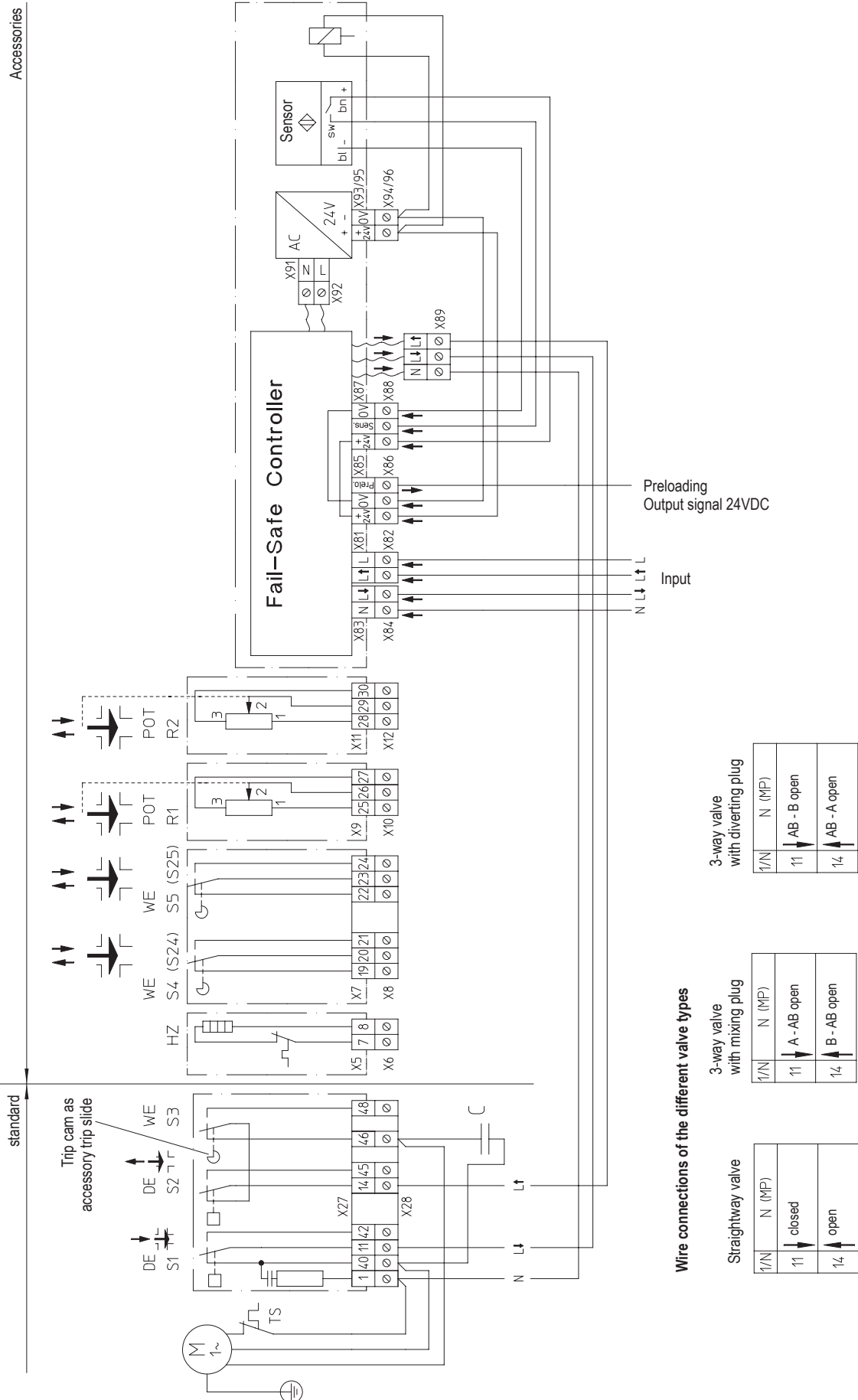


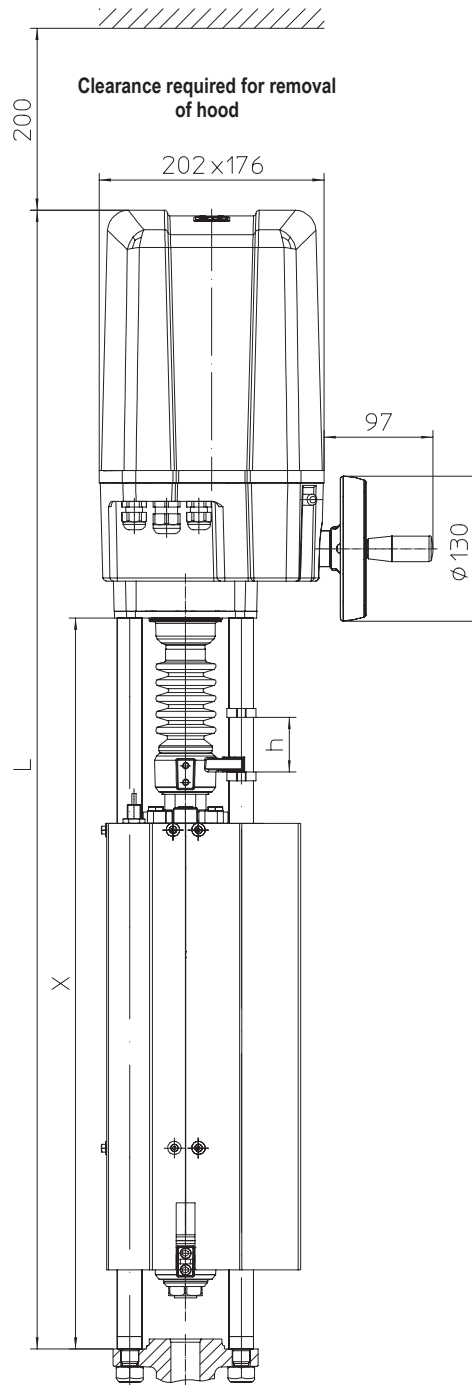
1/N	N (MP)
11	closed
14	open

1/N	N (MP)
11	A - AB open 
14	B - AB open 

1/N	N (MP)
11	AB - B open
14	AB - A open

Wiring diagram: ARI-PREMIO® 9 kN (2023 lbf)





ARI-PREMIO® / ARI-PREMIO®-Plus
with fail-safe function
9 kN (2023 lbf)

Nominal travel 50 mm (1.97 inch)

X	L	h
(mm)	(mm)	(mm)
663	1027	50

X	L	h
(inch)	(inch)	(inch)
26.10	40.43	1.97



Technology for the Future.
GERMAN QUALITY VALVES

ARI-Armaturen Albert Richter GmbH & Co. KG, D-33756 Schloß Holte-Stukenbrock,

Tel. +49 52 07 / 994-0, Telefax +49 52 07 / 994-158 or 159 Internet: <http://www.ari-armaturen.com> E-mail: info.vertrieb@ari-armaturen.com