

Type 900X

Miniature I/P, E/P Transducer for Electronic Air Pressure Control

Self-correcting to maintain precise control

Now Available in High-Pressure Output Versions



ControlAir Inc.

Type 900X

Durable, precise control from a variable signal

The Type-900X I/P, E/P transducers are a series of compact electronic pressure regulators that convert an electrical signal (current or voltage) to a proportional pneumatic output. Utilizing internal solid-state feedback circuitry, the Type-900X provides precise, stable pressure outputs to final control elements. Immunity to the effects of vibration or mounting position, high tolerance to impure air, and low air consumption make this unit ideal for use in demanding applications.

The heart of this unique technology is a bimorph piezo actuator that is encapsulated in a protective skin. This provides a constant defense against humidity and contaminants often found in process operating environments. The Type-900X utilizes a nozzle to control a pilot pressure to an integral volume booster. The resultant output pressure is measured by a pressure sensor which in turn provides a feedback signal to the circuitry.

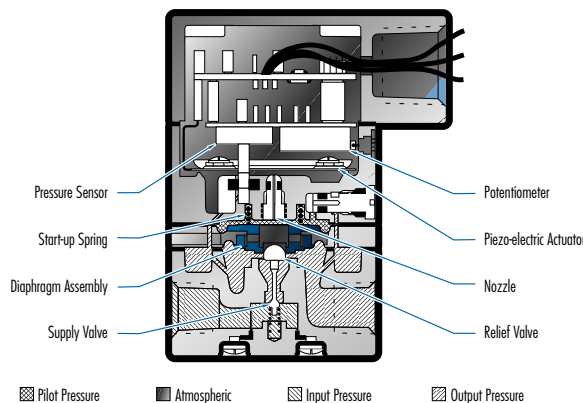
The feedback circuit compares this signal to the input signal and self corrects as necessary, thus minimizing the effects of variation in vibration, position, temperature, and supply pressure. The current/voltage signal flows to the piezo actuator causing the actuator to move toward a nozzle. This restricts the flow of air through the nozzle and creates back pressure in the nozzle. This back pressure acts as a pilot pressure to an integral booster relay.

FUNCTIONAL SPECIFICATIONS

Inputs	4-20 mA, 0-10VDC, 1-9 VDC, 0-5 VDC, 1-5 VDC			
Outputs	1-17 psig	0.07-1.20 BAR	2-60 psig	0.20-4.00 BAR
	3-15 psig	0.20-1.00 BAR	2-100 psig	0.14-6.70 BAR
	3-27 psig	0.20-1.80 BAR		
	6-30 psig	0.40-2.00 BAR		
Air Consumption	1.5 scfm (0.11 m ³ /hr) at mid range typical		4.5 scfm (0.16 m ³ /hr) at mid range typical	
Supply Pressure	100 psig (7.0 BAR) maximum		130 psig (8.7 BAR) maximum	
	60 psig (4.00 BAR) maximum for 1-17 psig output unit			
Note: Supply pressure must be a minimum of 5 psig above maximum output				
Flow Capacity	4.5 scfm (7.6 m ³ /hr) at 25 psig (1.7 BAR) supply		20.0 scfm (34.0 m ³ /hr) at 150 psig (10.0 BAR) supply	
	12.0 scfm (20.0 m ³ /hr) at 100 psig (7.0 BAR) supply			
Temperature Limits	Operating	-40° to +160° F (-40° to +71° C)		
	Storage	-40° to +200° F (-40° to +93° C)		
Loop Load, I/P Transducer	7.5 VDC @ 20 mA			
Supply Voltage, E/P Transducer	7-30 VDC, less than 3 mA			
Signal Impedance E/P Transducer	10 Kilohms			

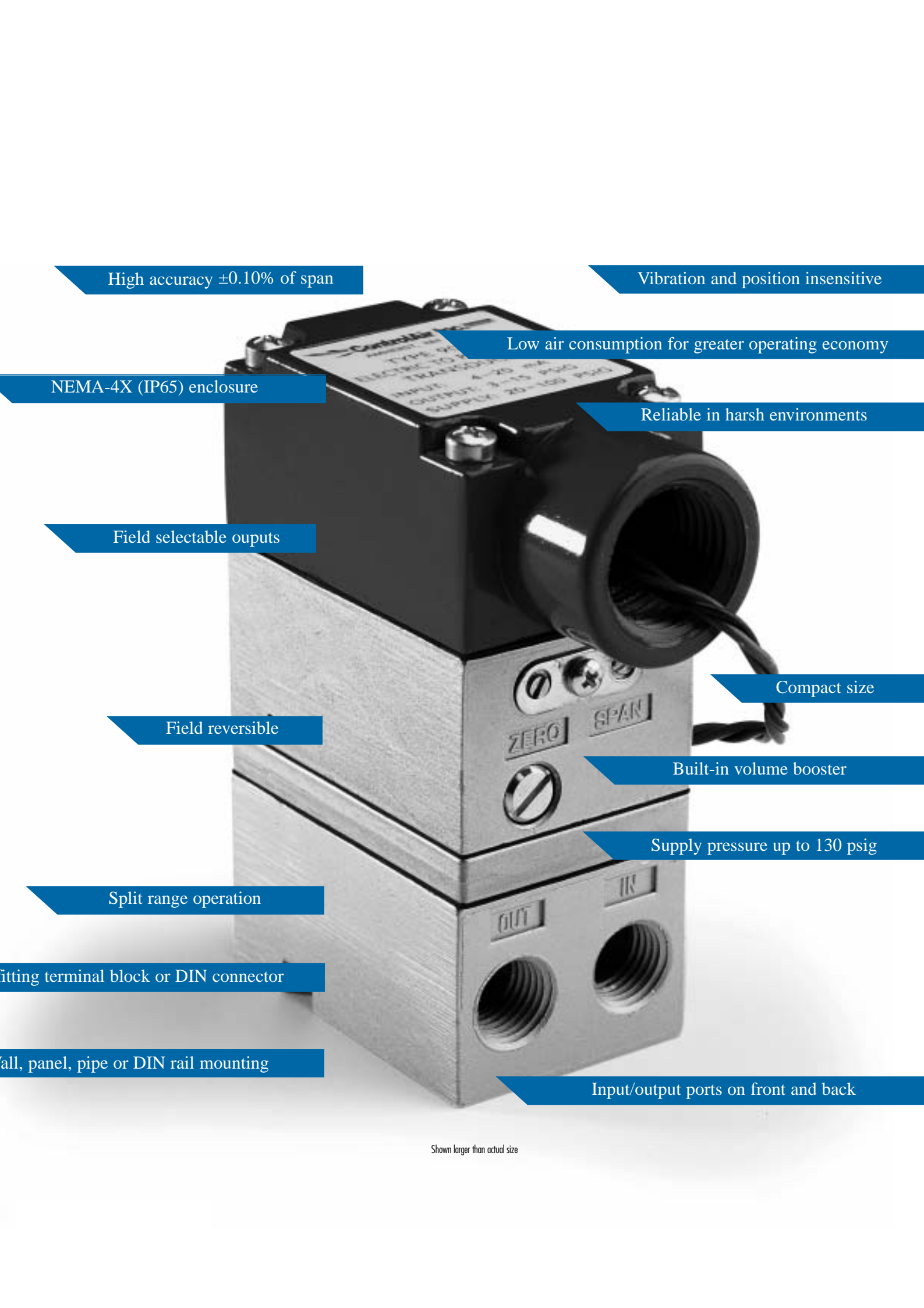
PERFORMANCE SPECIFICATIONS

Accuracy, Hysteresis, and Repeatability	±0.10% of span guaranteed
Deadband	.02% of span
Position Effect	No measurable effect
Vibration Effect	Less than ±1.0% of span under the following conditions: 5-15Hz @ 0.8 inches constant displacement; 15-500Hz @ 10g's
Supply Pressure Effect	No measurable effect
Temperature Effect	±0.045%/°F (0.07%/°C) of span
Reverse Polarity Effect	No damage from reversal of normal supply current (4-20 mA) or from misapplication of up to 60 mA
RFI/EMI Effect	Pending



Conduit f

W



High accuracy $\pm 0.10\%$ of span

Vibration and position insensitive

Low air consumption for greater operating economy

NEMA-4X (IP65) enclosure

Reliable in harsh environments

Field selectable outputs

Compact size

Field reversible

Built-in volume booster

Supply pressure up to 130 psig

Split range operation

Fitting terminal block or DIN connector

Input/output ports on front and back

Wall, panel, pipe or DIN rail mounting

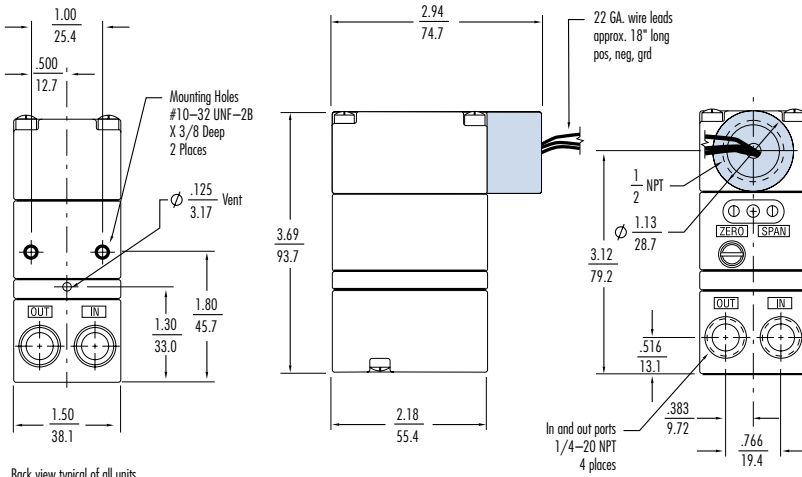
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Type 900X

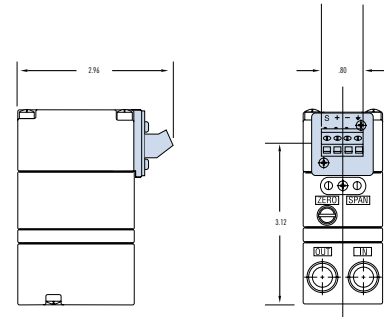
Standard Configurations

Type 900X Options

1/2 inch Conduit Connection (A)

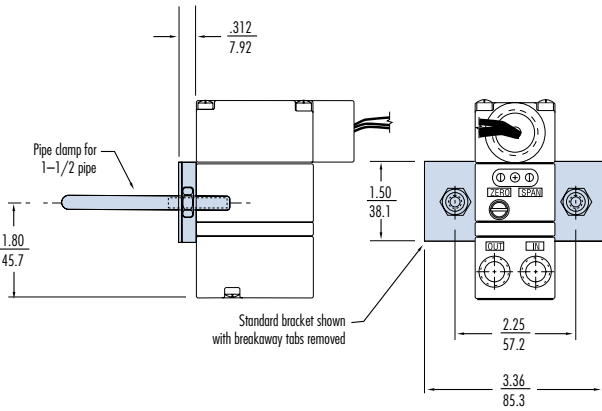


Terminal Block (T)*

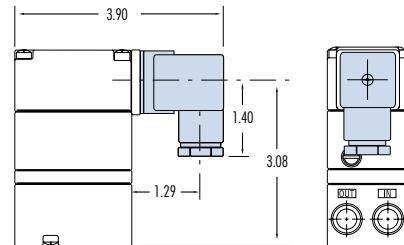


*Available March 2000

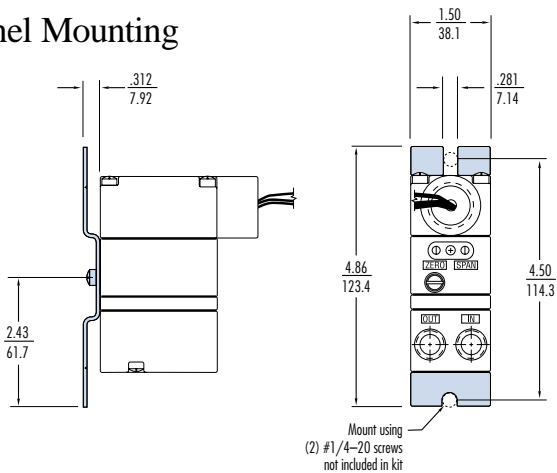
Pipe Mounting



DIN 43650 Connector (D)

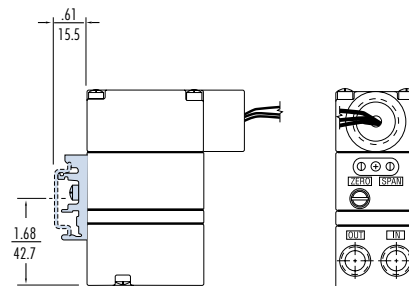


Panel Mounting



DIN Rail Mounting

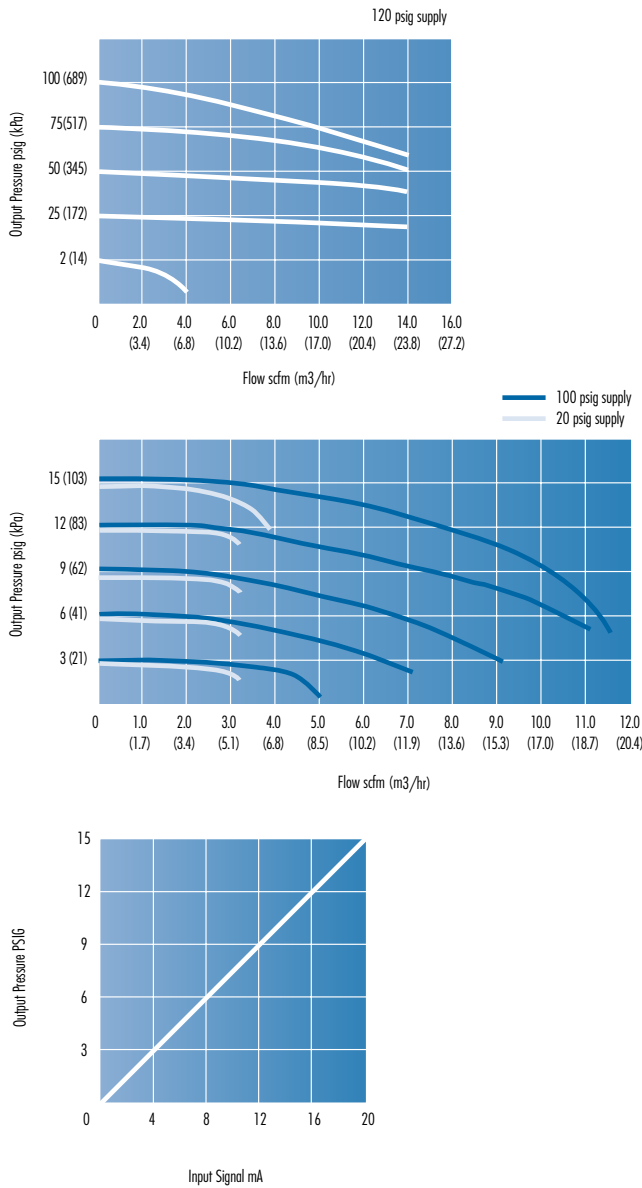
Order kit # 445-766-024



DIN Rail Kit suitable for EN-50035, EN-50045 and EN-50022 Rails

Type 900X

Performance Characteristics



Applications

The Type 900X is used extensively by professionals who demand maximum performance and reliability when controlling valve actuators, pneumatic valve positioners, air cylinders, clutches, brakes, dampers, louvers, and pumps.

Original equipment applications include:

Machinery for grinding or polishing

Automated assembly, conveying, dispensing and web tensioning

Semiconductor manufacturers

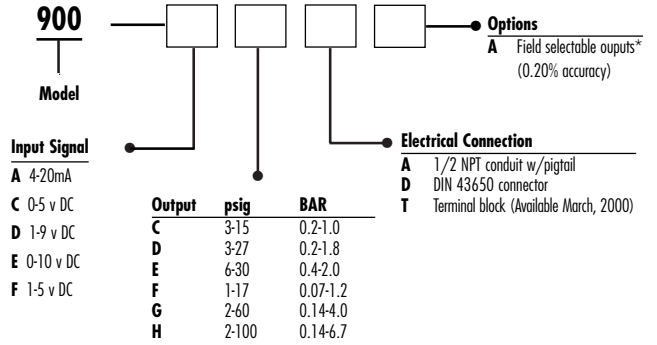
Food processing

HVAC, Welding, leak testing and painting

Type 900X

Ordering Information

Use this coding system to order



Accessories

DIN rail mounting kit
Kit # 445-766-024

Options

A Field selectable outputs (0.20% accuracy)

*Field selectable option is available only for units with the following outputs: 3-15 psig, 3-27 psig, 6-30 psig.

Physical Specifications

Port Sizes	Pneumatic Electric	1/4" NPT 1/2" NPT
Media	Clean, dry, oil-free, air-filtered to 40 micron	
Mounting	Direct wall, panel, 2" pipe or DIN rail (optional)	
Materials	Housing	Chromate-treated aluminum with epoxy paint. NEMA 4X (IP65)
	Elastomers	Buna-N
	Trim	Stainless steel; brass; zinc-plated steel
Weight	13.0 oz (0.4 kg)	

Hazardous Area Classifications

Factory Mutual (FM) Intrinsically Safe—Approval pending

Canadian Standards (CSA) Intrinsically Safe—Approval pending



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