



# Armstrong® Emech™ Digital Control Valves ID Chart

Emech® Digital Control Valves							
Illustration	Type	Connections NPT	Body Material	Model	Flow Rate gpm @ 45 psi	Max. Inlet Press. psig	Located on Page
Emech® Hot/Cold Water Mixing Valves							
	Actuated	3/4"	Stainless Steel	E20W	54	150	542
		1"		E25W	84	150	
		1-1/2"		E40W	132	150	
		2"		E50W	320	150	
		3"		E80WR	966	230	
	Non Actuated	3/4"	Stainless Steel	F3020	54	150	
		1"		F3025	84	150	
		1-1/2"		F3040	132	150	
		2"		F3050	320	150	
Emech® Steam/Water Mixing Valves							
	Actuated	1"	Stainless Steel	E25S	N/A	230	
		1-1/2"		E40S	N/A	230	
		2"		E50S	N/A	230	
Emech® Digital Flow Control Systems							
	Actuated	3/4"	Stainless Steel	E20F	109	150	
		1"		E25F	187	150	
		1-1/2"		E40F	308	150	
		2"		E50F	535	150	
	Non Actuated	3/4"	Stainless Steel	F2020	109	150	
		1"		F2025	187	150	
		1-1/2"		F2040	308	150	
		2"		F2050	555	150	



# Armstrong® Emech™ Digital Control Valves

- Manual Over-Ride Handle standard (not shown)
- Lockable Security feature

- Local Keypad or mA loop “Set Value” capability
- LCD Display “Set Value and “Process Value”, Degrees F or C or valve position
- Hinged magnetic latching and lockable display cover
- Error signal indication

Push button “soft start” electronics

- Epoxy powder coated aluminium enclosure with stainless steel fasteners
- Corrosion resistant finish
- O-ring enclosure seals and energized cup shaft seal
- NEMA 4 (IP65)

Graduated visual indicator on shaft coupling

Separate Terminal Enclosure, sealed from the electronics enclosure

- mA loop input/output terminals
- 24Vdc power terminals
- Common ‘blade’ mini-fuse + spare
- Self retaining screws
- Integrated Overvoltage protection

Internationally patented “shear action” valve seat design and “mix+sense” technology

Integrated “In Valve” high-speed temperature sensor

Valve constructed from CF8M (316) stainless steel

Industrial Hot Water

# Emech™ Digital Control Valves



Emech™ is digital hardware that is faster, simpler, and smarter with one goal in mind: unparalleled performance in industrial applications. Emech™ digital control valves are available for steam/water and hot/cold water industrial service. The unique range of Emech™ multi-patented ceramic disc/stainless steel disc rotary 3 port mixing when combined with the Emech™ digital actuator delivers superior closed-loop performance in terms of speed, precision and reduced mechanical wear when compared to traditional mixing and control valve systems.

The mixing valve system is a highly optimized temperature control system with patented valve disc system, swirl mixing action, high speed in valve sensing, with embedded PID control of a 100% duty cycle rated stepper motor digital actuator.

A series of 2 port flow control valves are also available, which when combined with the Emech™ actuator and sensing technology forms a system providing superior temperature control to a range of industry standard processes, through its high speed and software configurable control dynamics.

## Actuator Features

- Electric Stepper Motor Control
- 100% Duty Cycle rated for continuous control
- Planetary lifetime lubricated, low backlash gearbox
- High speed 1.3 second quarter-turn response
- Precise positioning achieving 0.03° valve seat placement
- Software configurable PID control for individual application loop tuning and special modes via RS232
- Two operating modes: Stand alone control via onboard keypad or Remote control via external 4-20mA
- 4-20mA input and output ports
- Additional auxiliary switch control available
- Epoxy powder-coated aluminum NEMA 4 enclosure
- Two sizes:
  - G12 model 310 in.lb torque: 24vDC 3.5 Amp
  - G13 model 885 in.lb torque: 24vDC 5 Amp

## Valve Features:

- One piece rotary spindle design
- Top entry maintenance and simple seals/o-rings
- Pressure rated to 145psig, designed to ASME B16.34
- Mechanical valve mounting to ISO5211,5210

## Primary Markets Include:

- Food Manufacturing Industries
- Pharmaceutical Manufacturing Industries
- General Process Industries

## High Speed Accuracy, Increase in Productivity

Decrease production downtime, improve product consistency and boost revenue.

Emech™ Digital Control Valves are specifically designed to instantly respond accurately. Emech's response time is incredibly rapid which directly affects productivity. The technology of Emech™ simply achieves more in less time, increasing productivity while lowering utility and maintenance cost. Emech's superior valve performance allows manufacturers to run their plans closer to constraints, thereby increasing production and yield.

## Maintenance Friendly

Featuring a CF8M/316 stainless steel valve body along with ceramic or nickel chrome stainless steel action discs and "simple" valve seals design kits, the Emech™ system is built to resist corrosion and minimize wear while providing maximum performance.

Emech™ is manufactured to meet the highest possible standards, every Emech™ system is designed, built and tested to provide reliable service with minimal maintenance.