MAGNEVO® MC SERIES

SUPERIOR DRY-RUN PROTECTION

MAGNETIC-DRIVE CENTRIFUGAL PUMPS

INDUSTRIES SERVED

- COMMERCIAL
- WATER TREATMENT
- GENERAL INDUSTRIAL
- OEM SOLUTIONS

MAGNEVO® PUMPS

EXPERTS IN MAGNETIC DRIVE PUMPS

ENGINEERED FOR ZERO LEAKS. BUILT FOR MAXIMUM UPTIME.

ADVANTAGES OF MAGNETIC-DRIVE TECHNOLOGY

1 ELIMINATION OF MECHANICAL SEALS

Mechanical seals are the leading cause of pump failure and fugitive emissions. Magnevo's sealless magnetic-drive design removes this risk entirely.

- ✓ Zero dynamic sealing surfaces
- ✓ Fully enclosed hydraulic system
- ✓ Reduced emission pathways

IMPACT: Compliance assurance and long-term reliability.

2 OPERATIONAL SAFETY & ENVIRONMENTAL INTEGRITY

Magnetic-drive containment prevents fluid exposure during operation, protecting people, equipment, and the environment.

- ✓ No leakage under normal conditions
- ✓ Reduced risk of hazardous release
- ✓ Supports EPA/OSHA compliance framework

IMPACT: Improved plant safety and environmental performance.

3 MAINTENANCE OPTIMIZATION

Seal systems require frequent replacement and maintenance.

- ✓ Eliminates seal lifecycle costs
- ✓ Reduces maintenance labor by 30-60%
- ✓ Minimizes unscheduled outages

IMPACT: Lower total cost of ownership (TOC).

4 DRY-RUN PERFORMANCE

Loss of fluid in conventional pumps often leads to rapid seal failure and thermal damage.

- ✓ No seal faces to overheat
- ✓ Tolerates extended dry-run conditions
- ✓ Maintains pump integrity under adverse events
- ✓ Performance recovers quickly once flow is restored

IMPACT: Increased system resilience and uptime.

ZERO LEAKS. ZERO EXPOSURE.

Sealless design eliminates the primary source of leaks and emissions.

ZERO LEAKS

No mechanical seals.
No leaks. Limited exposure.

SAFETY YOU CAN TRUST

Fluid containment protects people, equipment, and the environment.

LESS MAINTENANCE

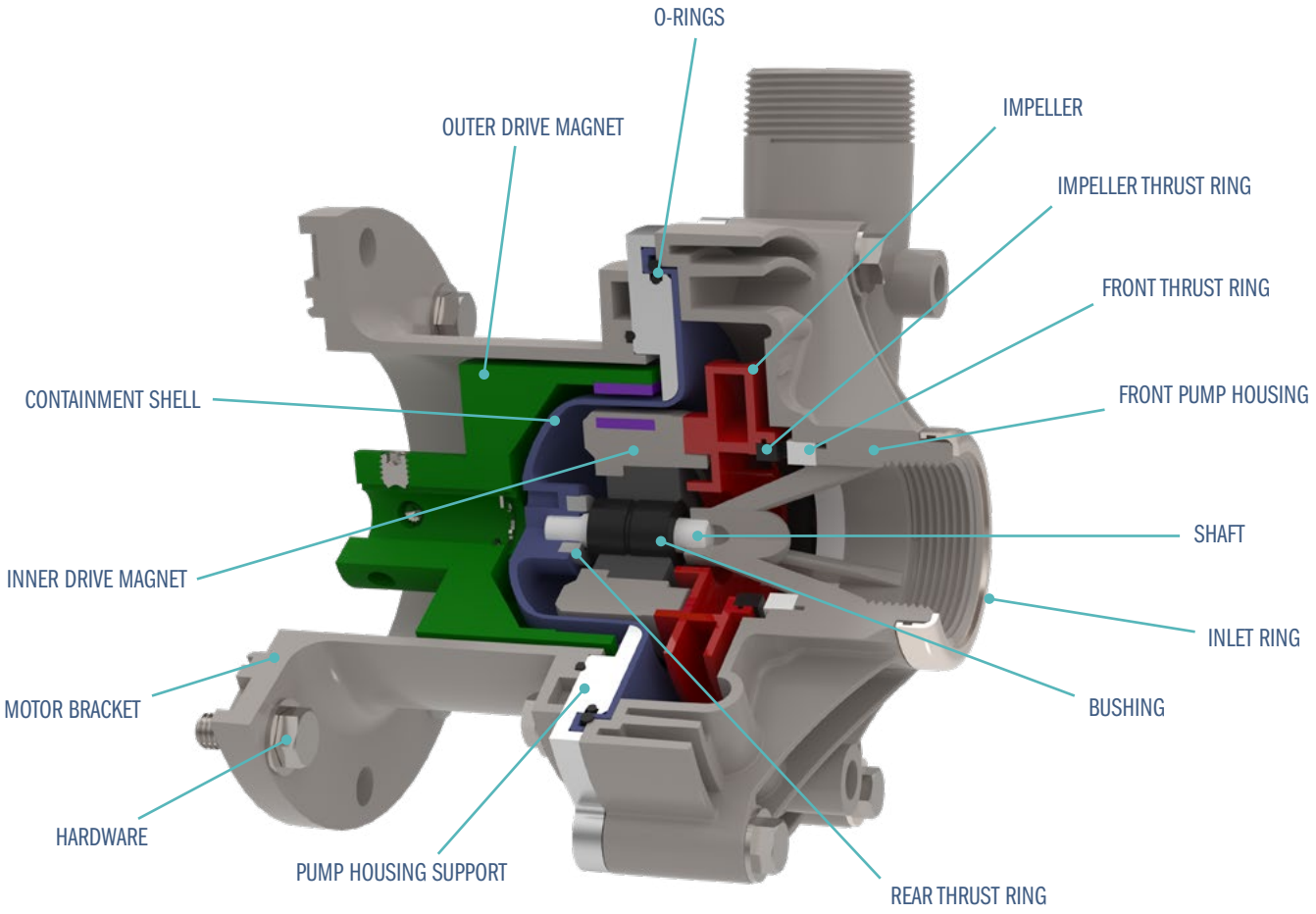
Fewer repairs. Less labor.
Lower operating costs.

BUILT FOR RELIABILITY

Engineered to perform.
Built to last.

ENGINEERED COMPONENT DESIGN

PRECISION ARCHITECTURE. PROVEN RELIABILITY.



LIQUID END MATERIALS OF CONSTRUCTION

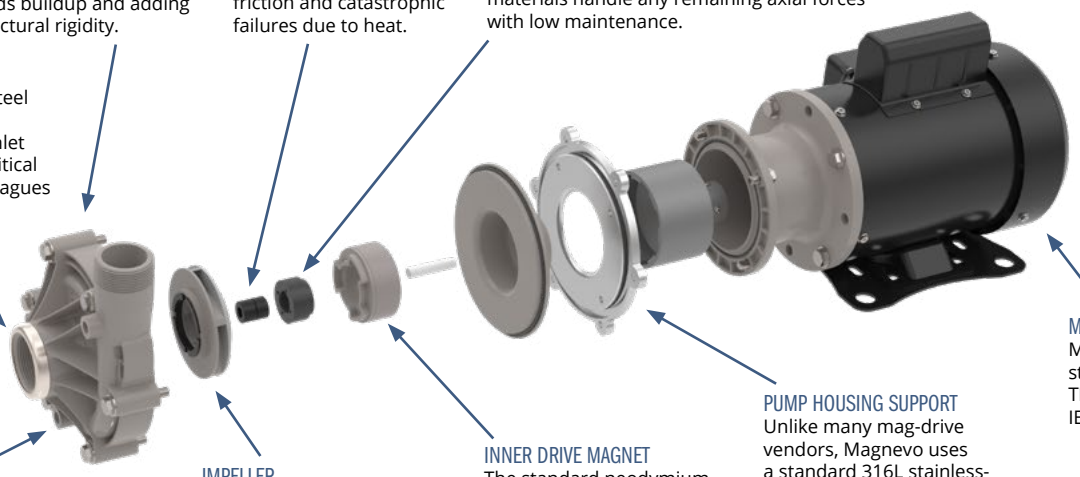
DESCRIPTION	STANDARD	OPTIONS
Front Pump Housing	Glass-fiber reinforced polypropylene (GFRPP)	—
Front Thrust Ring	Alumina ceramic	—
Impeller Thrust Ring	Glass-filled PTFE with molybdenum	—
O-Rings (fluid elastomers)	FKM (flourocarbon elastomer)	EPDM
Impeller	Glass-fiber reinforced polypropylene (GFRPP)	—
Bushing	Carbon graphite	Alumina ceramic
Shaft	Alumina ceramic	—
Pump Housing Support	316L stainless steel	—

DESCRIPTION	STANDARD	OPTIONS
Rear Thrust Ring	Silicon carbide / alumina ceramic	—
Outer Drive Magnet	Epoxy-coated steel with nickel-plated neodymium iron boron magnets	—
Containment Shell	Glass-fiber reinforced polypropylene (GFRPP)	—
Motor Bracket	Glass-fiber reinforced polypropylene (GFRPP)	—
Inner Drive Magnet	Neodymium magnets encapsulated in polypropylene	—
Inlet Ring	316L stainless steel	—
Hardware	316 stainless steel	—

Max. operating temperature: 180 °F

ADVANCED PROTECTION STARTS INSIDE

SMART DESIGN. ADVANCED MATERIALS. REAL-WORLD PROTECTION.



PUMP HOUSING
Innovation in the volute's internal design eliminates low-flow voids, preventing solids buildup and adding structural rigidity.

PATENT PENDING
Proprietary materials stabilize the rotating mass during dry-run conditions, minimizing friction and catastrophic failures due to heat.

RADIAL & AXIAL THRUST
All Magnevo pumps feature a fully supported static shaft that virtually eliminates radial shaft deflection. The impeller assembly is designed to balance axial forces through fluid dynamics. Front and rear thrust rings made of premium materials handle any remaining axial forces with low maintenance.

SIMPLE DESIGN
With only nine chemically resistant parts in the pumped fluid and a back pullout design, on-site serviceability is assured, giving years of reliable production.

INLET RING
A 316L stainless-steel reinforced ring is molded into the inlet to strengthen a critical weak point that plagues plastic pumps.

MOTORS
Magnevo utilizes standard, inverter-ready TEFC, NEMA C Face, and IEC motors.

PUMP HOUSING SUPPORT
Unlike many mag-drive vendors, Magnevo uses a standard 316L stainless-steel support.

INNER DRIVE MAGNET
The standard neodymium rare-earth magnet is completely encapsulated for protection against corrosive environments inside and out.

IMPELLER
Best-in-class performance with efficiencies up to 70% and a two-piece design that allows for an economical replacement when the application changes.

DRAIN
Molded boss can be quickly drilled and tapped with a ¼" NPT drain or plug.

BUILT TO HANDLE DRY-RUN CONDITIONS

ADVANCED BEARING & BUSHING MATERIALS

- ✓ The internal sleeve bearings are the first to fail in dry run.
- ✓ Carbon graphite bushings are self-lubricating — even when dry — dramatically extending dry-run survivability.
- ✓ Infused with proprietary materials to reduce heat and increase strength.

HEAT-RESISTANT THERMOPLASTICS

- ✓ High-grade thermoplastics provide superior heat resistance and mechanical strength.
- ✓ Delivers greater resiliency and long-term reliability compared to pumps built with lower-grade polymers.
- ✓ Rated for operation up to 180 °F.

THRUST LOAD MANAGEMENT

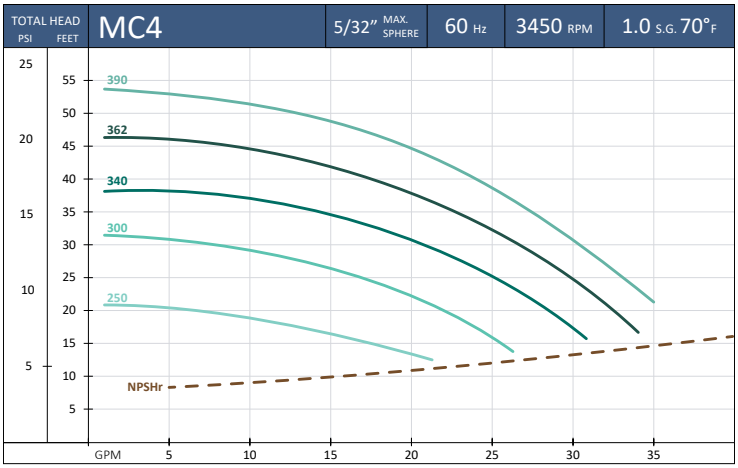
- ✓ Dual thrust bearings (front and rear) distribute axial loads.
- ✓ Larger bearing surfaces spread the load and reduce localized heat and scoring.
- ✓ Results in smoother operation and longer component life.

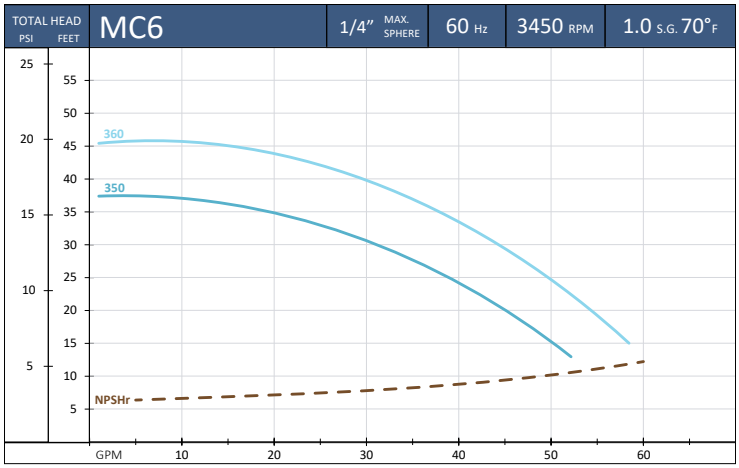
PATENT-PENDING DRY-RUN DESIGN

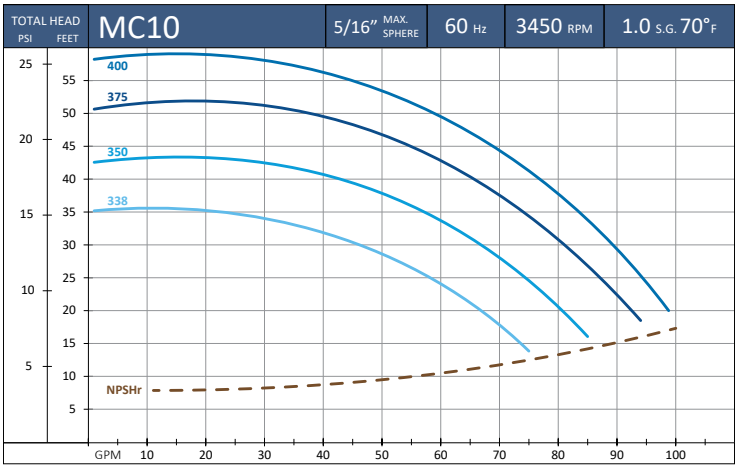
When starved of liquid, the unbuffeted run condition within the pump creates internal friction with no cooling capacity.

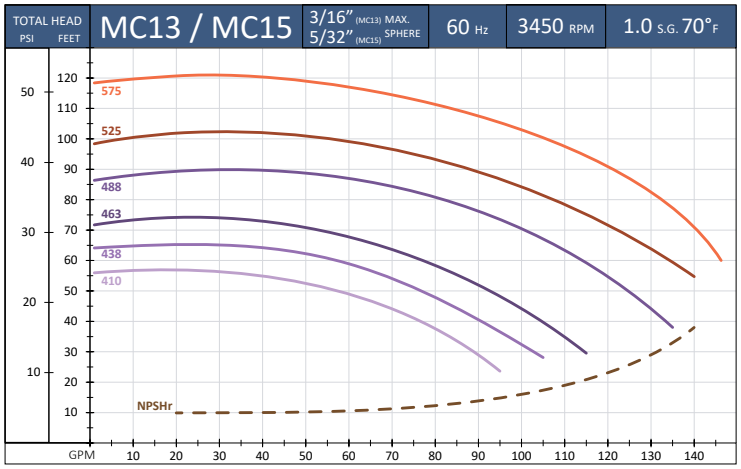
- ✓ Magnevo's patent-pending stability system reduces non-linear movement in the impeller during dry-run conditions, preventing the impeller from generating catastrophic heat.

PUMP CURVES









MODEL	INLET (FNPT)	OUTLET (MNPT)	MAX FLOW (GPM)	MAX HEAD (FT)	VOLTAGE	PH	HP	AMPS
MC4-250	1	1	28	21	115/230	1	0.5	6.2/3.1
MC4-300	1	1	30	31	115/230	1	0.5	6.2/3.1
MC4-340	1	1	35	38	115/230	1	0.5	6.2/3.1
MC4-362	1	1	37	46	115/230	1	0.5	6.2/3.1
MC4-390	1	1	40	54	115/230	1	0.5	6.2/3.1
MC6-350	1.5	1	55	37	115/230	1	0.5	6.2/3.1
MC6-360	1.5	1	60	46	115/230	1	0.5	6.2/3.1
MC10-338	1.5	1.5	75	35	115/230	1	0.5	6.2/3.1
MC10-350	1.5	1.5	85	43	115/230	1	1	12.4/6.2
MC10-375	1.5	1.5	90	52	115/230	1	1	12.4/6.2
MC10-400	1.5	1.5	95	59	115/230	1	1	12.4/6.2
MC13-410	2.0	1.5	95	57	115/230	1	1.5	17.4/8.7
MC13-438	2.0	1.5	105	65	115/230	1	1.5	17.4/8.7
MC13-463	2.0	1.5	115	74	115/230	1	2	21.6/10.8
MC13-488	2.0	1.5	135	90	230/460	3	3	7.0/3.5
MC15-525	2.0	2.0	145	103	230/460	3	5	11.0/5.5
MC15-575	2.0	2.0	150	121	230/460	3	5	11.0/5.5

MODEL NUMBER KEY

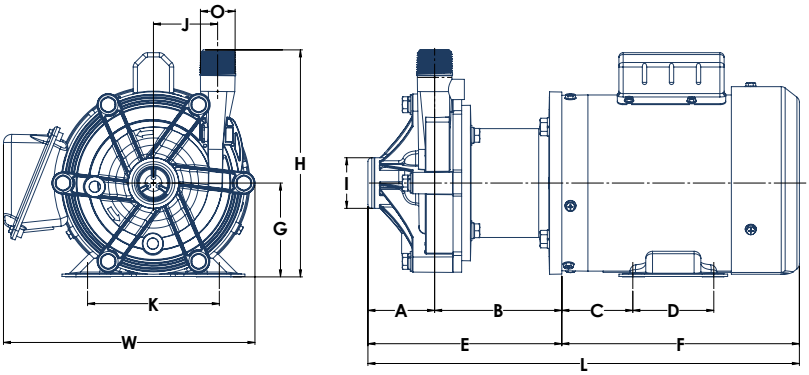
MC10-375-FC-M1-1.0T

A B C D E F G

- **A.** Family series
- **B.** Impeller curve
- **C.** Elastomers
- **D.** Bearing
- **E.** Motor voltage, phase, Hz
- **F.** Motor horsepower
- **G.** Motor enclosure

A	B	C	D	E	F	G
Model	**Impeller**	**Elastomers**	**Bearings**	**Voltage**	**Motor HP (3600 RPM)**	**Enclosure**
MC04 (1" x 1") NPT	250, 340, 362, 390	**F**-FKM (standard)	**C**-Carbon graphite (standard)	**M1**-115/230V 1 Phase - 60 Hz	**.33**	**T**-TEFC painted (standard)
					.50	
					.75	
MC06 (1.5" x 1") NPT	350, 360		**A**-Alumina ceramic		**1.0**	
		E-EPDM		**M3**-208-230/460V 3 Phase - 60 Hz	**1.5**	**W**-Washdown stainless
MC10 (1.5" x 1.5") NPT	338, 350, 375, 400				**2.0**	
			S-Sintered SIC		**3.0**	
MC13 (2" x 1.5") NPT	410, 438, 463, 488				**5.0**	**X**-Explosion proof
		T-Teflon encapsulated Viton			**7.5**	
MC15 (2" x 2") NPT	525, 575		**R**-Rulon filled PTFE	**MX**-Specialty motor (consult factory)	**10**	
					15	

DIMENSIONS



I = Suction
O = Discharge
L/H/W = Envelope Dimensions

NOTES:
1. Dimensions are for reference only.
2. Do not use for construction purposes.

DIMENSIONS – INCHES															
Pump Model	Motor Frame	A	B	C	D	E	F	G	H	I (NPT) Suction	J	K	L	O (NPT) Discharge	W
MC4	NEMA 56C	2.47	4.68	2.63	3	7.18	8.8	3.48	8.41	1	2.38	4.88	15.98	1	9.13
MC6	NEMA 56C	2.51	4.68	2.63	3	7.18	8.8	3.48	8.41	1.5	2.54	4.88	15.98	1	9.13
MC10	NEMA 56C	2.35	4.83	2.63	3	7.18	8.8	3.48	8.41	1.5	2.6	4.88	15.98	1.5	9.13
MC13	NEMA 145TC	3.06	5.5	2.85	4	8.61	12	4.70	10.45	2	3.37	5.5	20.61	1.5	10.12
MC15	NEMA 184TC	3.06	5.5	4.39	4.5/5.5	8.61	15.24	4.70	10.45	2	3.37	7.5	23.85	2	11.78

INDUSTRIES SERVED

- CHEMICAL PROCESSING
- FOOD & BEVERAGE
- PRIMARY METALS
- WATER & WASTEWATER
- SEMICONDUCTOR GENERAL INDUSTRIAL
- PHARMACEUTICAL PULP & PAPER

APPLICATIONS

Water & Environmental

- ✓ Water & Wastewater Treatment
- ✓ Reverse Osmosis & Desalination
- ✓ Ultrapure/DI Water Systems
- ✓ Water Reclamation & Conditioning

Surface Treatment & Finishing

- ✓ Electroplating & Metal Finishing
- ✓ Chroming (Chromic Acid)
- ✓ Etching & Surface Treatment
- ✓ Galvanic Bath Circulation

Process & OEM Systems

- ✓ Pressure Boosting
- ✓ Plant Services
- ✓ Filtration & Fluid Recirculation
- ✓ Dosing Systems & Test Rigs

Chemical Processing

- ✓ Chemical Transfer & Distribution
- ✓ Acids, Caustics & Solvents
- ✓ Corrosive & Toxic Liquids
- ✓ Batch Processing & Chemical Dosing

Industrial & Manufacturing

- ✓ Semiconductor & Electronics Manufacturing
- ✓ Metalworking & Primary Metals
- ✓ Storage Battery Production
- ✓ Printing Circuit Boards

OEM & EQUIPMENT MANUFACTURERS

Engineered solutions. Built to integrate. Built to perform.

SPECIALTY USES

- ✓ HVAC & Refrigeration Systems
- ✓ Mining (Chemical Transfer)
- ✓ Aquariums & Environmental Control
- ✓ Solar & Energy Applications
- ✓ Textile, Laundry & Commercial Systems

TYPICAL CHEMICALS			
Water & Wastewater	Sodium hypochlorite, ferric chloride, alum, polymers, lime slurry, wastewater, DI water	Semiconductor/ Electronics	DI water, ultrapure water, mild chemicals
Chemical Processing	Hydrochloric acid, phosphoric acid, sulfuric acid (dilute), caustic soda, detergents	Pulp & Paper	Sodium hydroxide, bleaching agents (mild), process water
Surface Treatment/ Plating	Acid pickling solutions, alkaline cleaners, rinse water, mild plating baths	General Industrial	Glycols, soaps, surfactants, water-based inks, urea
Food & Beverage	Citric acid, acetic acid, sugar solutions, brine, CIP chemicals	Energy Biofuels	Urea, glycols, process chemicals, water
Pharmaceutical	DI water, ultrapure water, mild acids and caustics	HVAC/ Refrigeration	Glycols, cooling water, treatment chemicals
Agriculture	Liquid fertilizers (UAN), herbicides, pesticides, irrigation solutions	Marine/Aquatic	Seawater, aquarium water, treatment chemicals

MAGNEVO® PUMPS
EXPERTS IN MAGNETIC DRIVE PUMPS

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Magnevo Pumps are designed, assembled and quality-control tested at our headquarters in Minneapolis, Minnesota, USA.
U.S. and Foreign Patents Pending

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