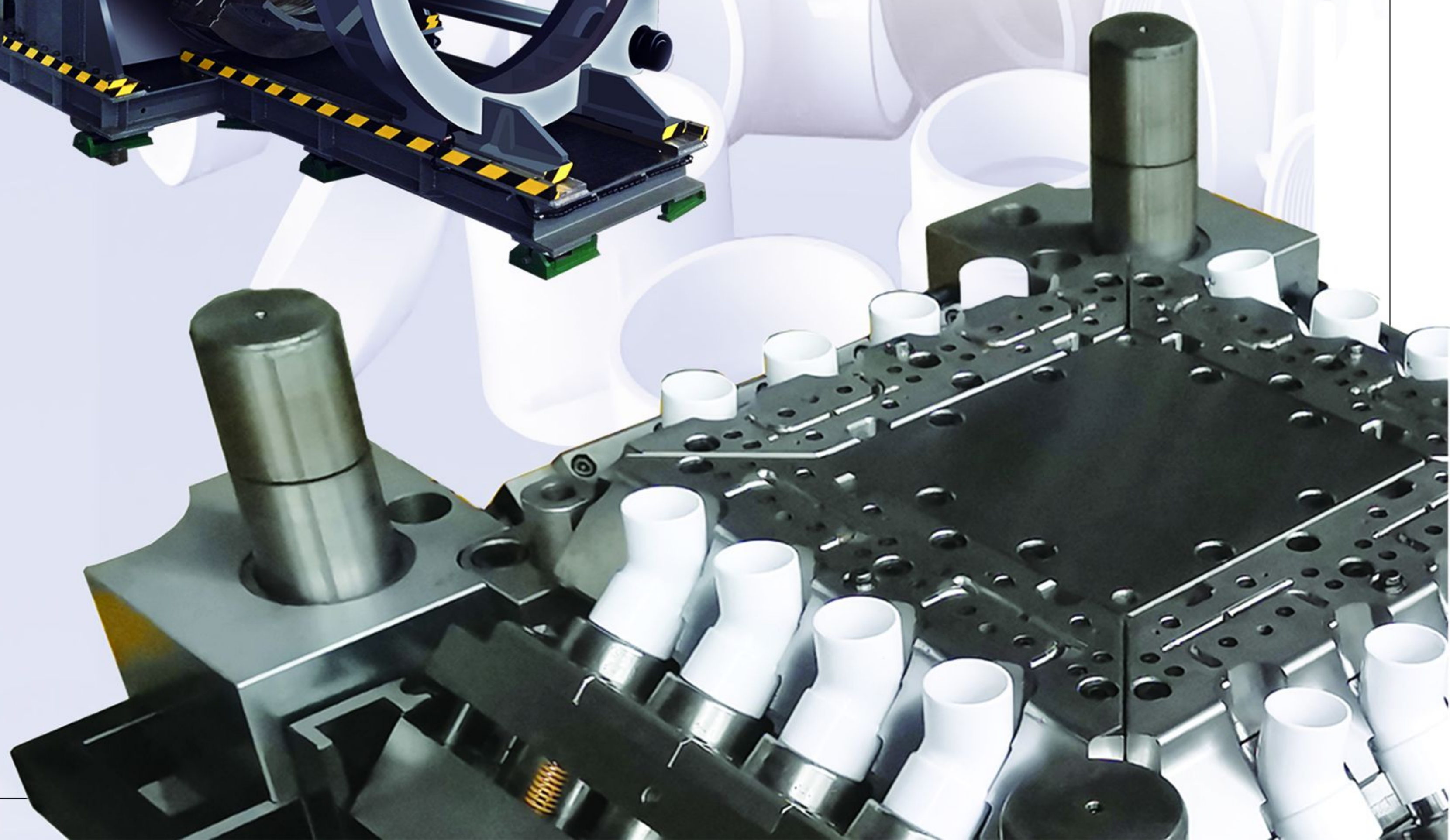
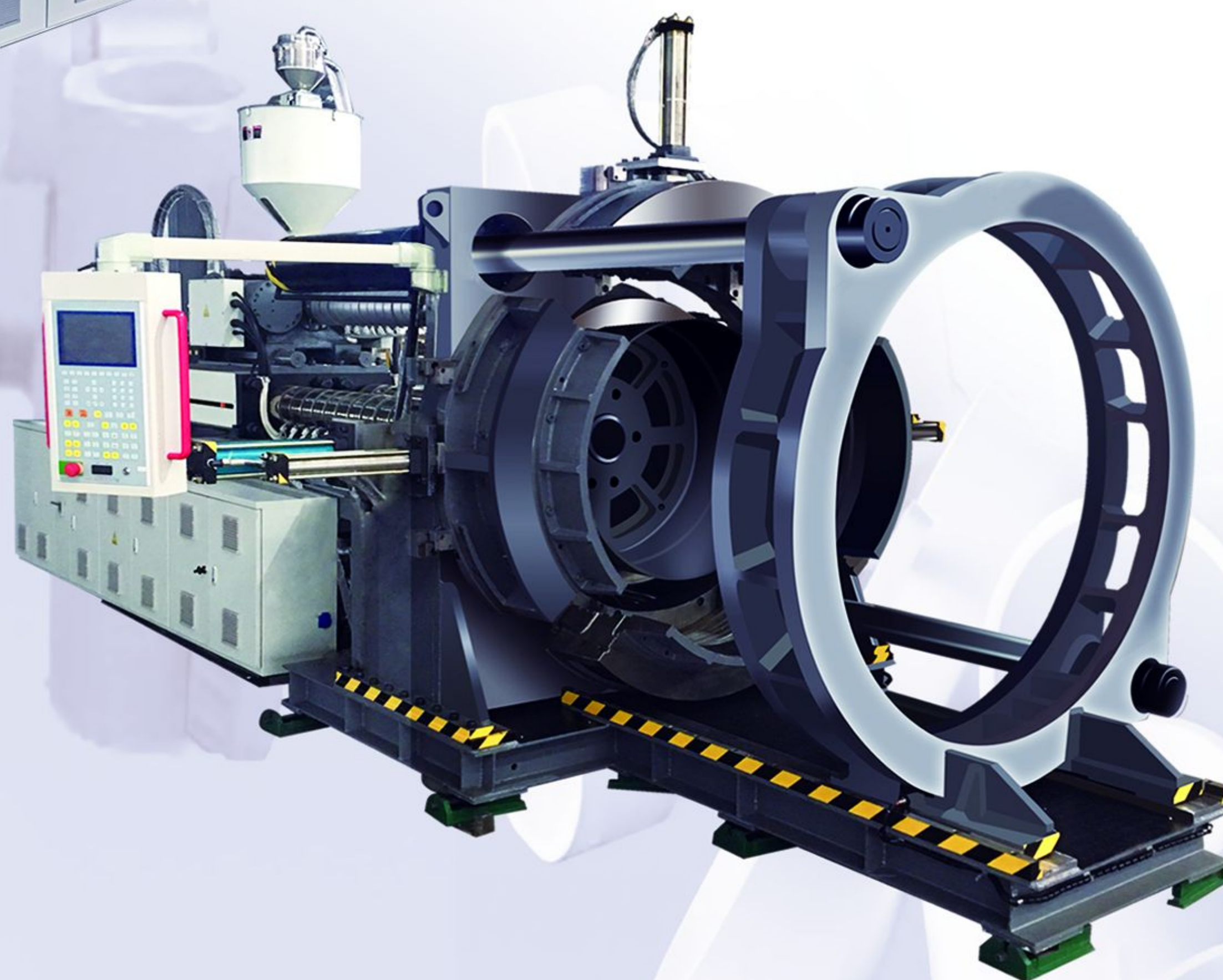


EMTECH 亿美特

Expert of Plastic Pipe Connection

Connecting World Modeling Future

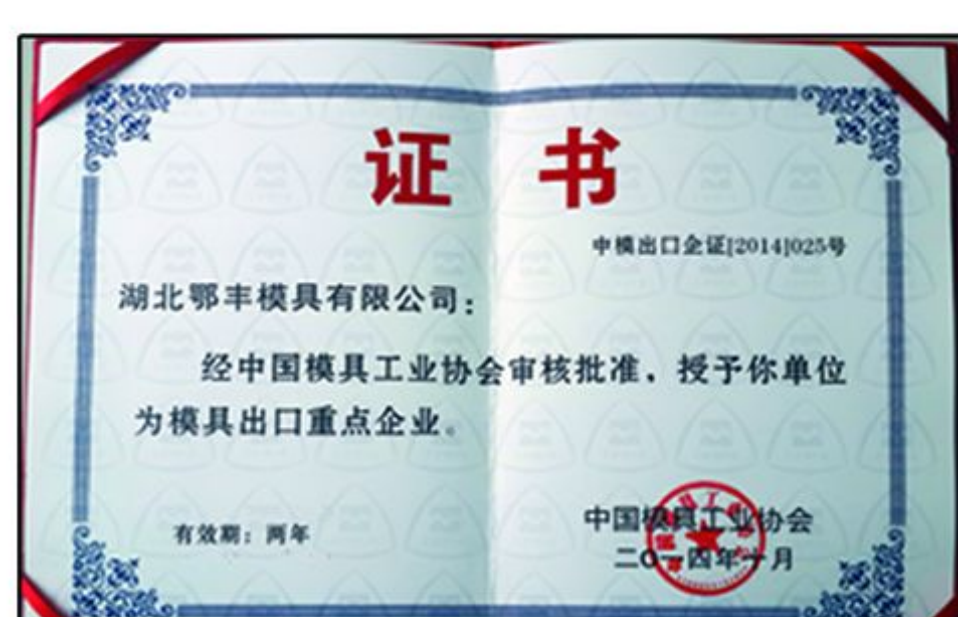




EMTECH is originated from Hubei Efeng Mould Co., Ltd. Since 1992, EMTECH has been serving domestic and international plastic pipe and fitting manufacturers unswervingly, and committed to the innovation, design and development of the mold and equipment for the pipe connecting system. Until today the company has built a complete product series, including plasticizing extruder, large municipal pipe over-molding socketing machine and fitting mold. In this sector, EMTECH is becoming a leading enterprise in China.

- 1994 First fitting mold supplier in China. Key Pipe and fitting mold enterprise of China.
- 2013 The original patented large municipal pipe over-molding socketing machine acknowledged by the market.
- 2016 Peristaltic plasticizing extruder based on the principle of extensional rheology plasticizing was first introduced.

Quanlification



Globe Market



PERISTALTIC ROTATING EXTRUDER

- Lower Processing Temperature
- Shorter Thermal Process
- Better Performance



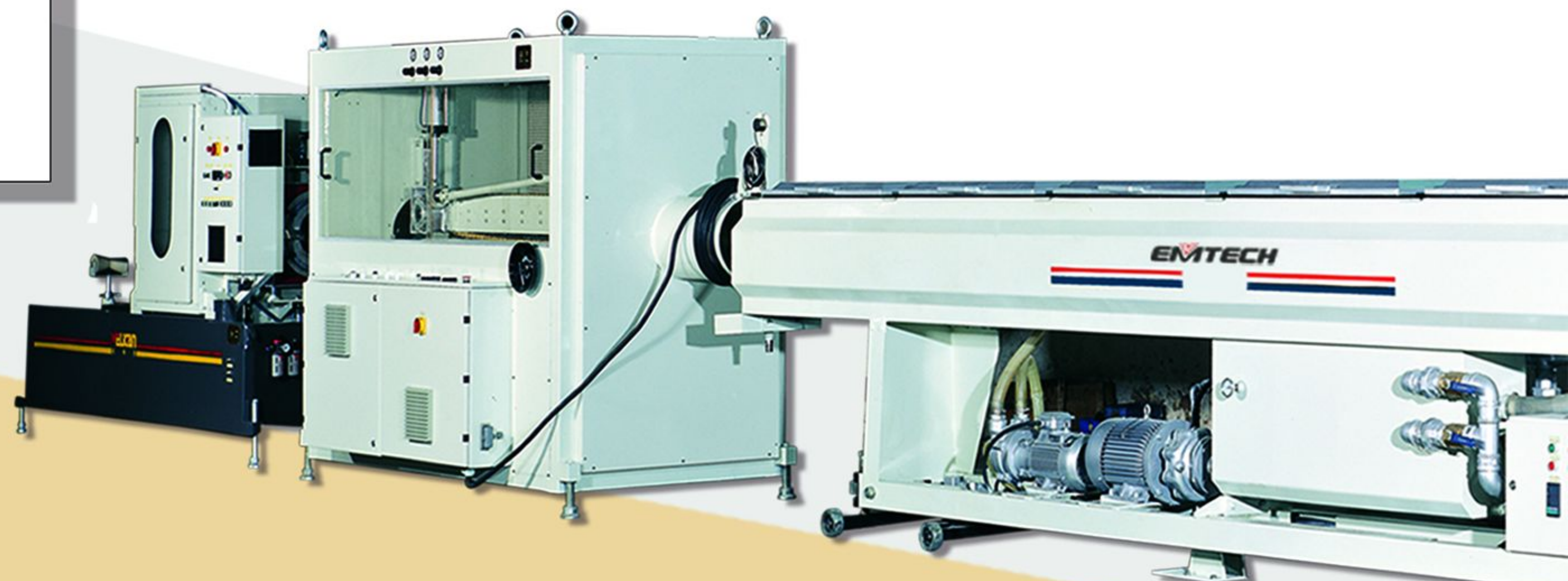
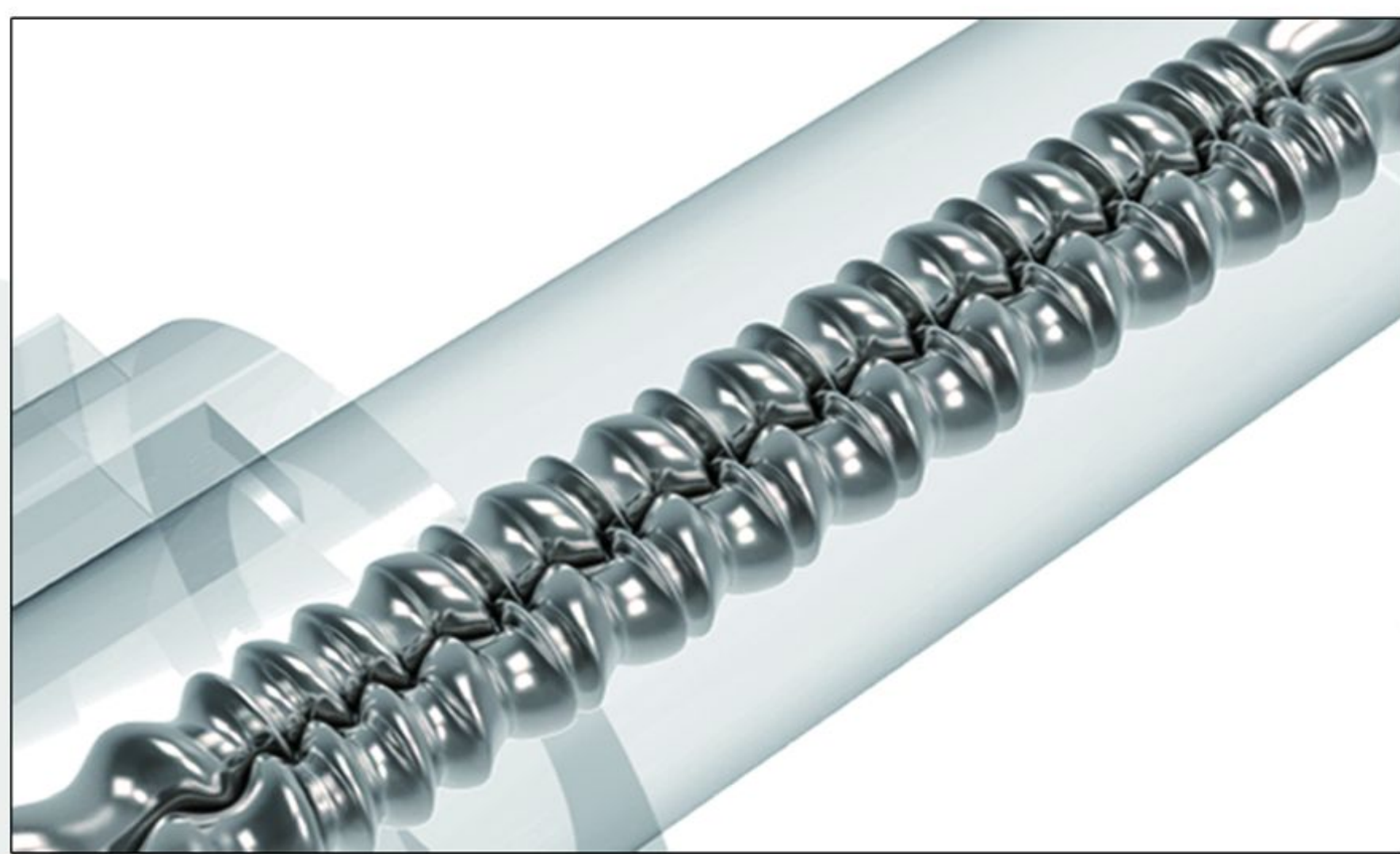
Breakthrough Technology of Polymer Processing



Peristaltic plasticizing extruder is a new product together developed by EMTECH and South China University of Technology (SCUT) National Engineering Research Center for polymer new-type forming equipment. The extruder is based on the theory of elongation rheology plasticizing transport and related inventions established by Qu Jinping, academican of China Academy of Engineering. Cooperated with relevant R&D teams and investors, EMTECH develops, produces and sells new generation plasticizing extrusion and injection molding equipment, and provides advanced products and related technical services for domestic and international customers

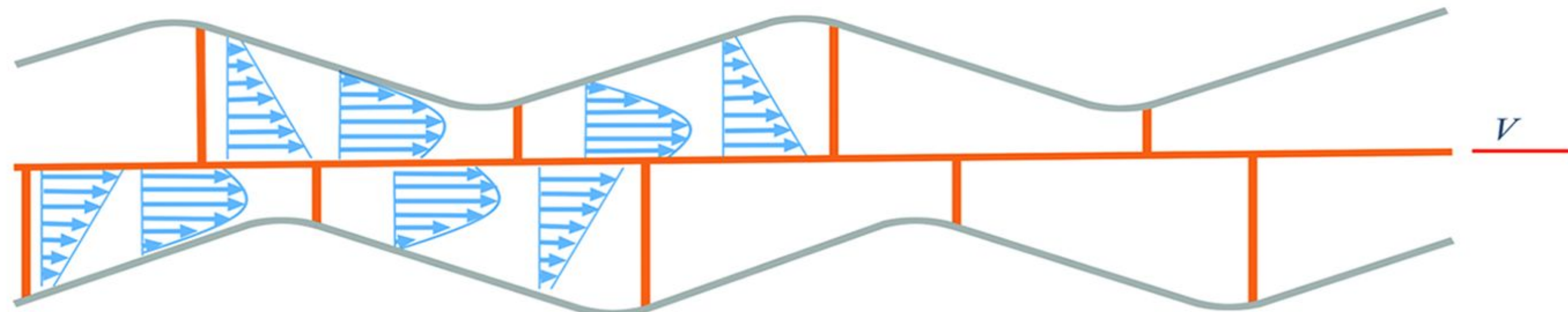


Qu Jinping
Academician of China Academy of Engineering



The Principle of Elongation Rheology Plasticizing and Convey

The key technology of Peristaltic Rotating Extruder is utilizing special structured plasticizing part, changing the way of melted flow plasticization and convey from traditional shearing rheology to elongation rheology dominant. The volume of melted flow moves peristaltically during this process. Compared with traditional plasticizing method, elongation rheology causes less damage to molecular chain, hence the material has better uniaxial tensile strength at yield and elongation strain at break. The process needs less heating energy and produce the material with better dispersion. Peristaltic Rotating Extruder is of great significance in energy saving, resource recycle and improvement of product quality, have huge prospects in world-wide market.



物料输送体积沿挤出方向周期性变化

After plastic pellet or powder enters into plasticizing unit, the melted flow (as figure above) experiences:

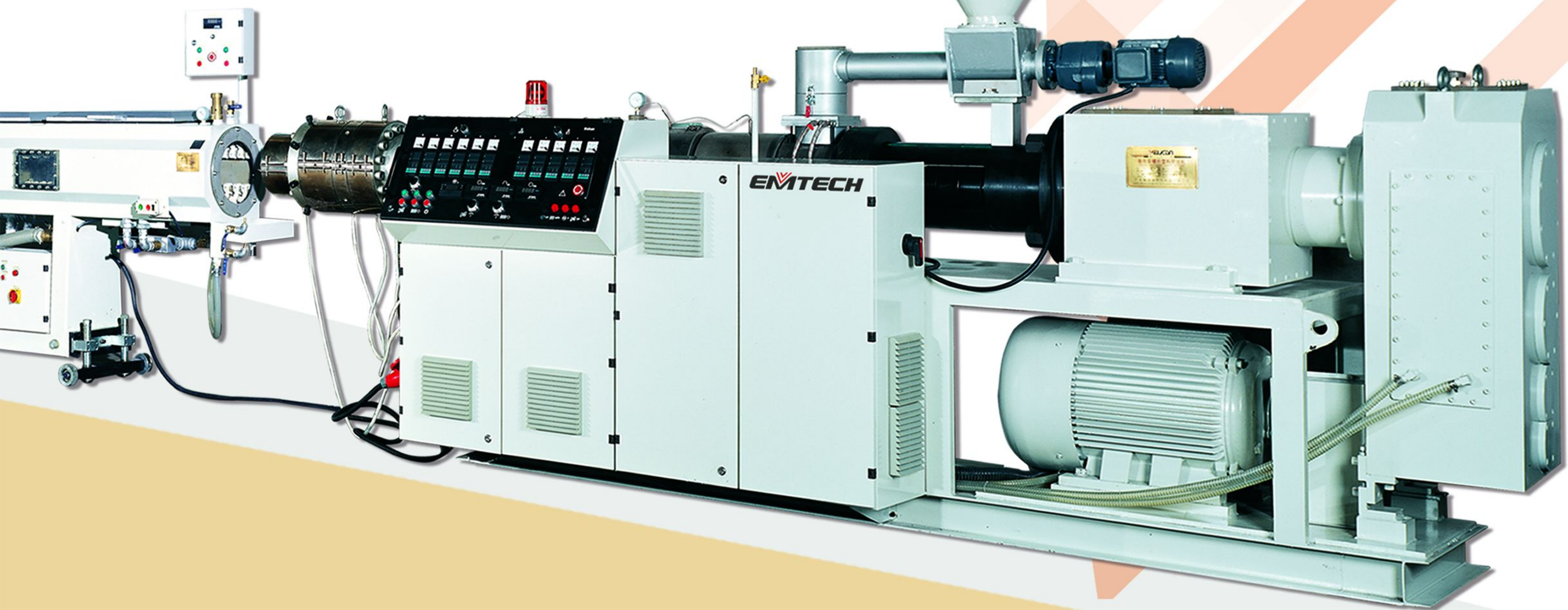
Powder/Pellet solid compress
↓
Volume peristalsis alternatively
↓
Homogenization
↓
Volume expansion venting
↓
Repeat peristalsis and Homogenization

Melted flow experiences multiple extension and compress stages. Whole process is carried out in smooth curved surface, preventing molecular chain from broken and overheat caused by shearing action. The completion of molecular chain is maximum preserved during this process. The principle is a great breakthrough in polymer processing sector.



**Golden Award for
Chinese Outstanding Patented Invention**

**Second Prize of
National Award for Technological Invention**



Performance Comparison with Traditional Extruder

Pipe type	PVC-M	PVC-U		Traditional Extruder	Peristaltic Extruder
Product Standard	CJ/T 272-2008	ISO 1452-2:2009	GB/T 1002.1-2006		
Dichloromethane resistance	No erosion is allowed on the surface	No erosion is allowed on the surface	Not inferior to 4N	PASS	PASS
Tensile yield strength		≥45		≥42	≥45
Elongation at break		≥80		≥150	≥180
Drop hammer impact strength	6.3KG 2m ≤5	M 1.0kg 1.6m H 1.6kg 2.0m ≤10	M 1.0kg 1.6m H 1.6kg 2.0m ≤5	3.0KG 2m ≤5	6KG 2m ≤10
Water pressure testing	36.0 dn ≤63 38.0 dn > 63	42.0	36.0 dn < 40 38.0 dn ≥40	38MPa 通过PASS	42MPa 通过PASS
Energy consumption ratio				0.18-0.20	0.15-0.18
Multiphase composite				Poor dispersion	Uniform dispersion

※Above data is only for PVC pipe DNI 110 mm

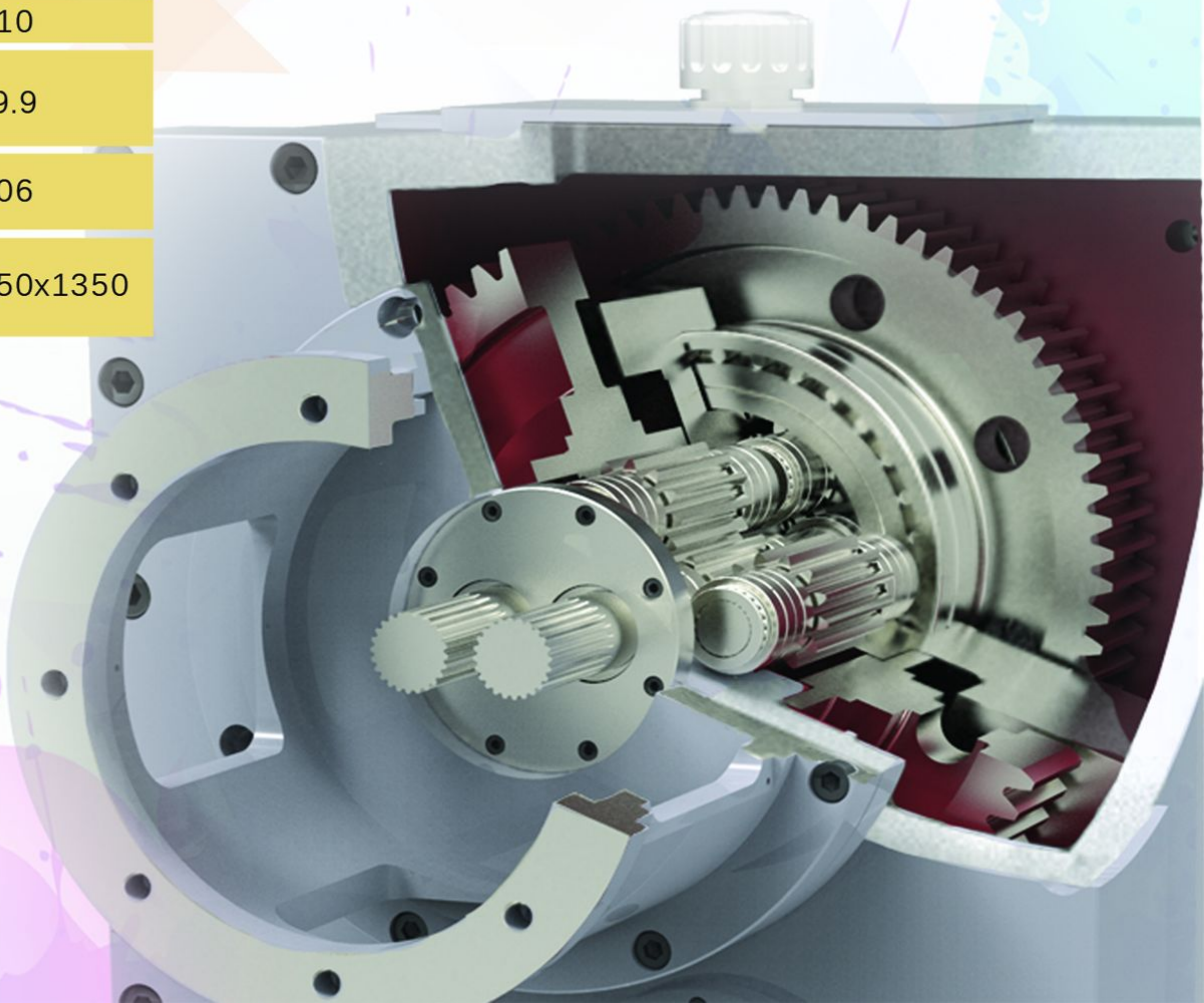
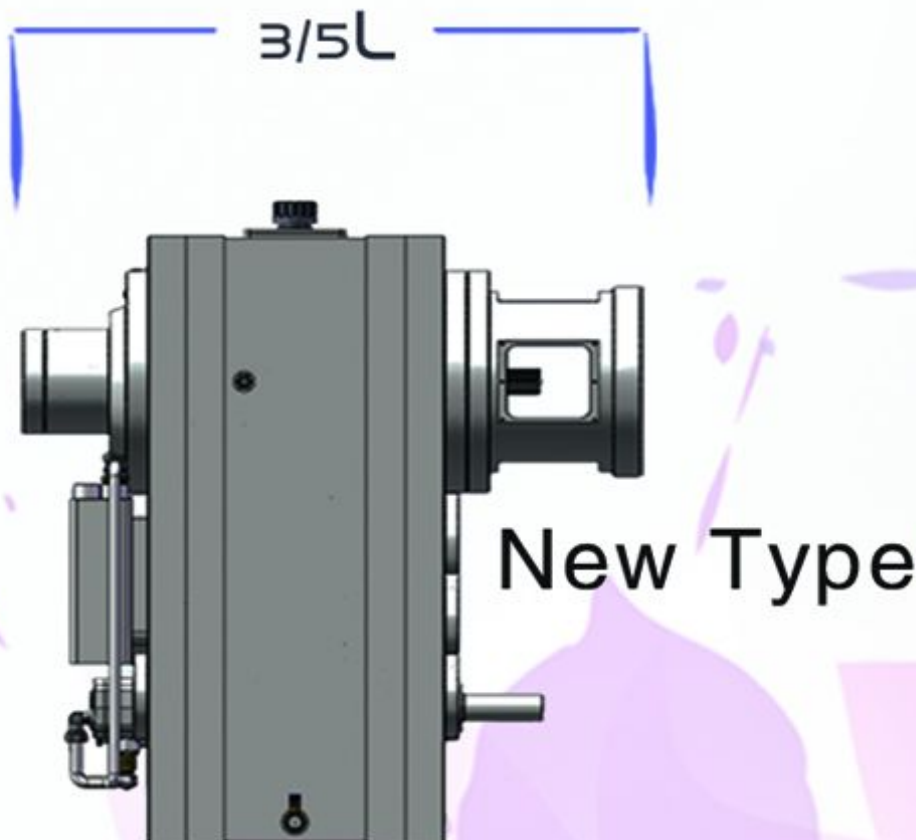
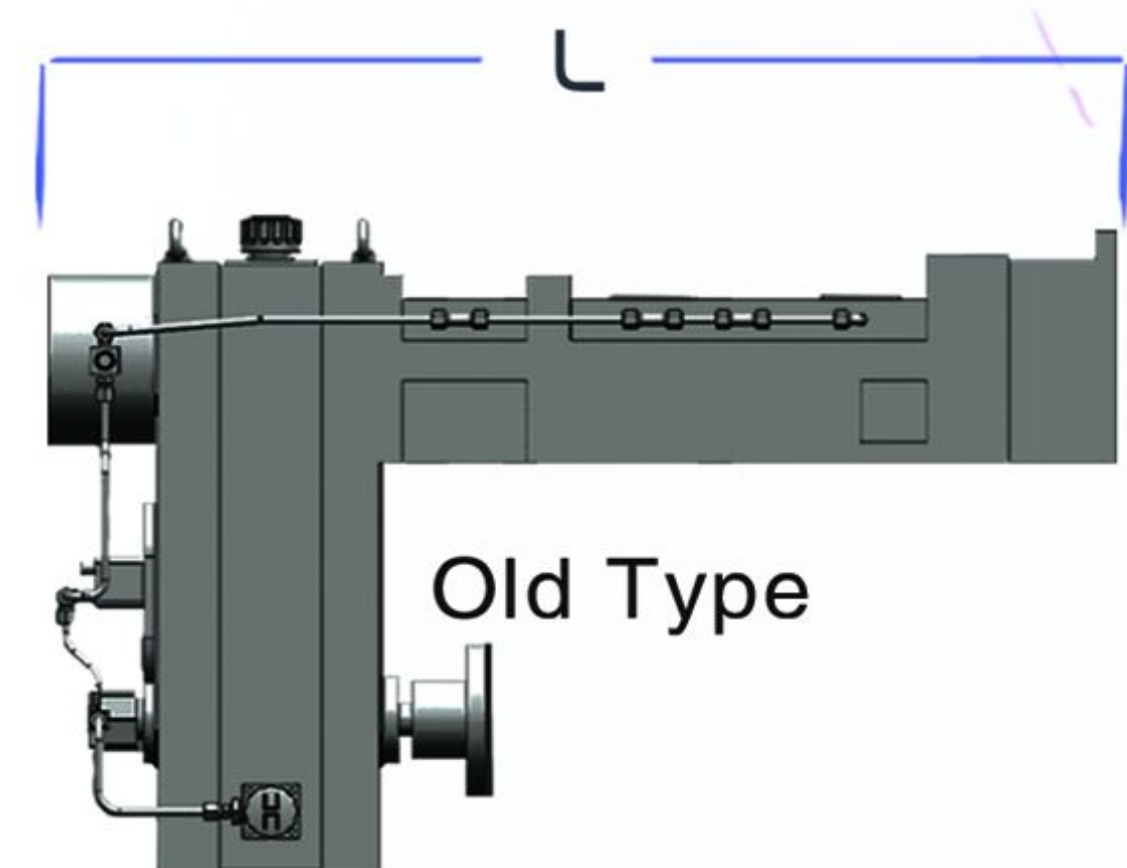


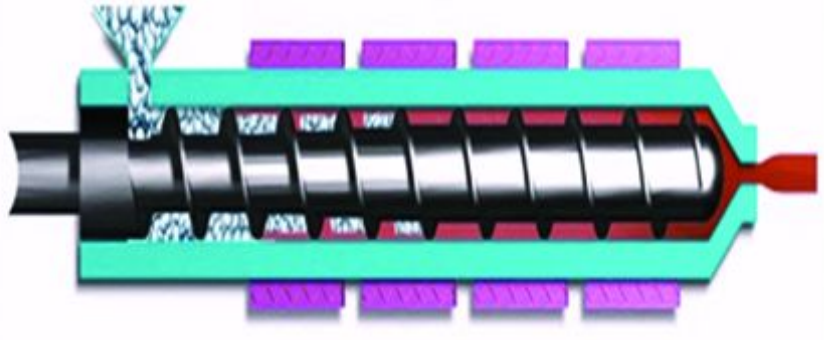

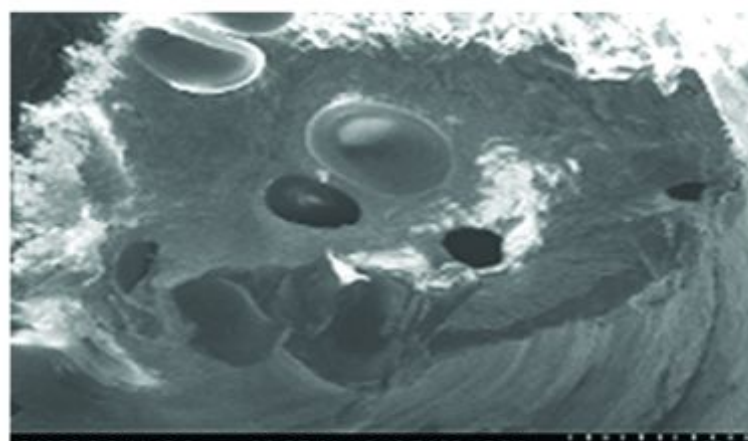
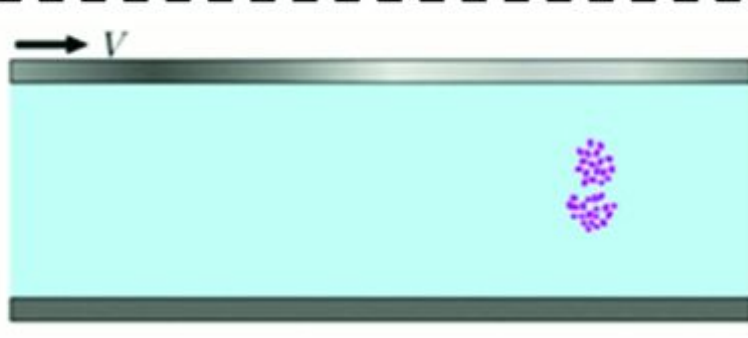
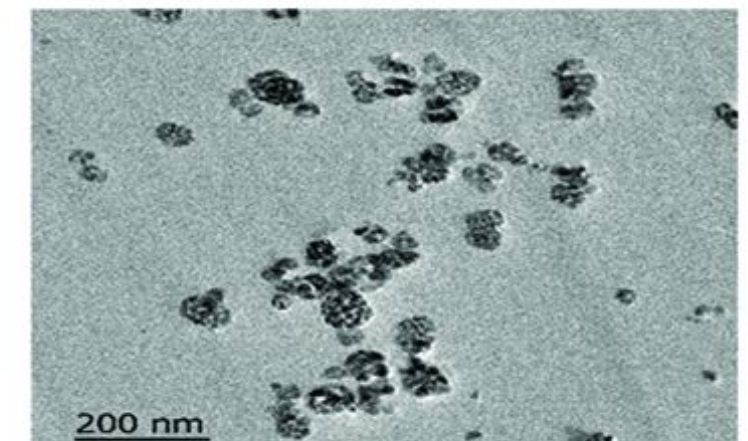

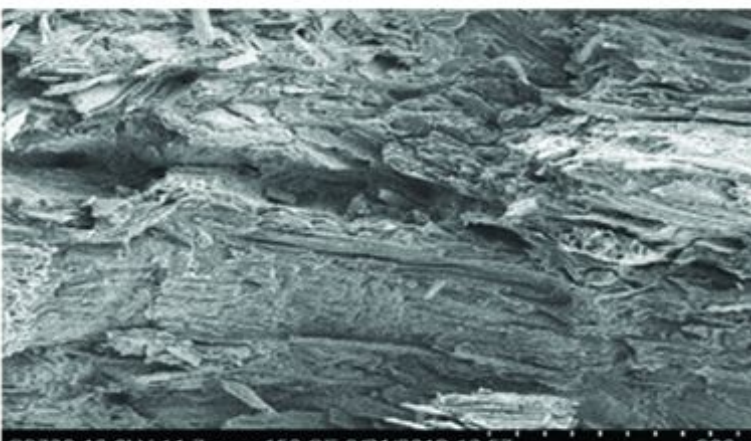
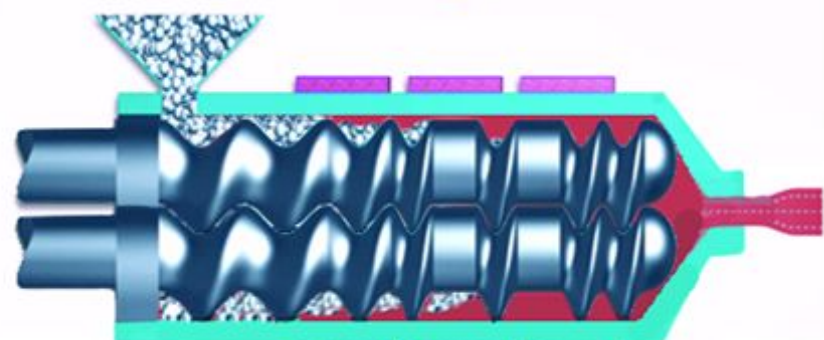
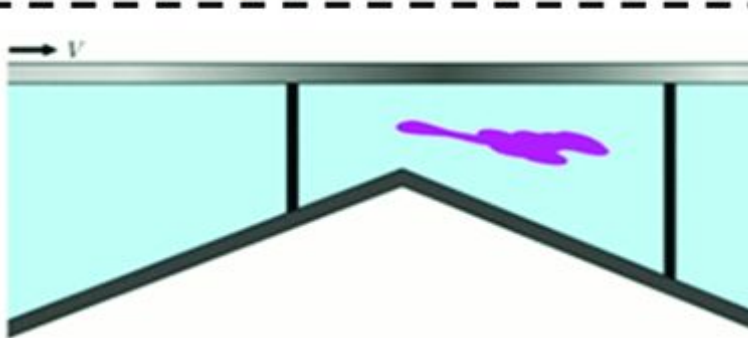
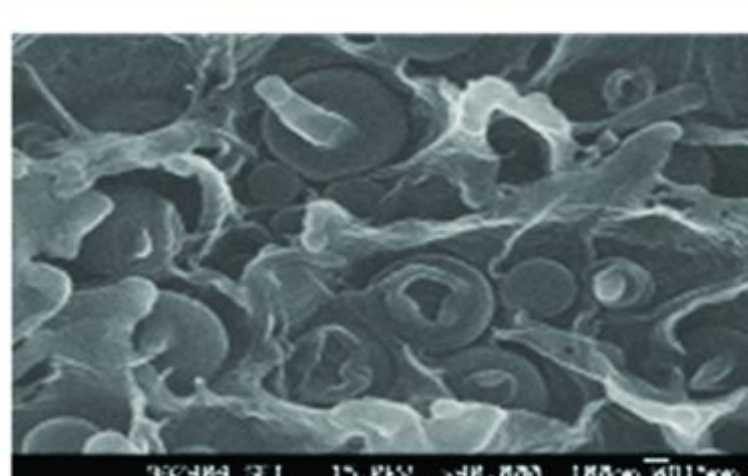
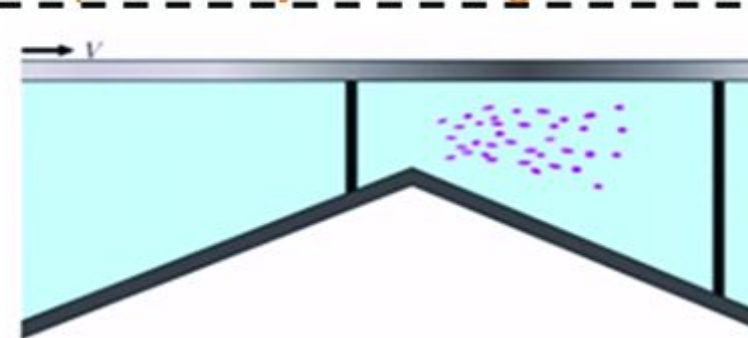
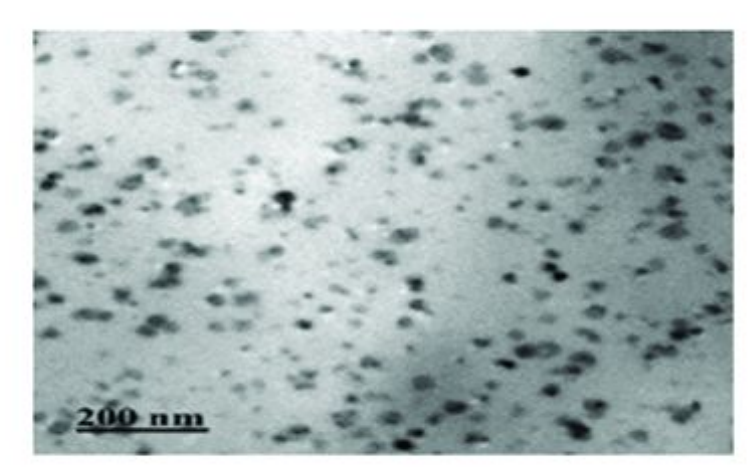
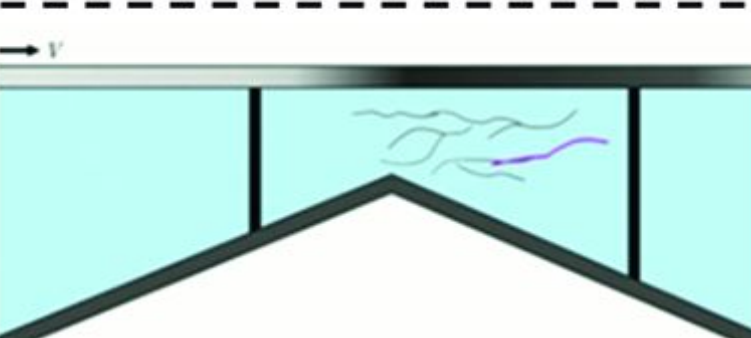
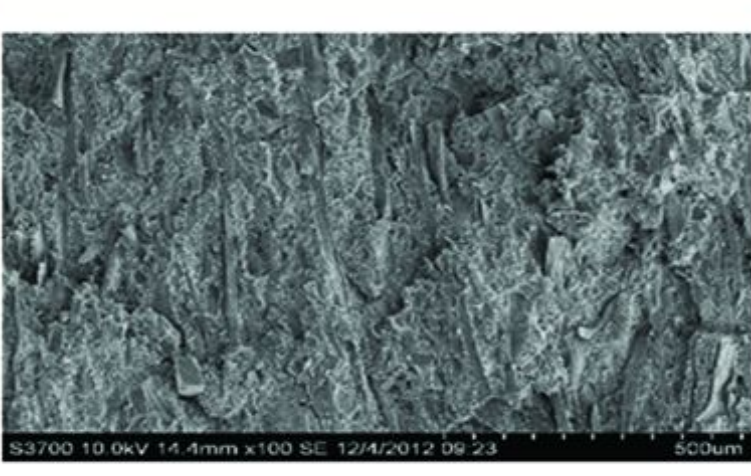
Gearbox/Distributor

More Compact Dimensions

Higher Torque Index

Main Figures of Gearbox For Parallel Twin-screw Extruder			
Type number	ETP 6-51/65	ETP 6-66/75	ETP 6-76/90
Screw Diameter (mm)	65	75	90
Center Distance (mm)	51	66	76
Uniaxial torque (Nm)	3300	5914	8700
Output speed (rpm)	60	60	60
Power (kw)	55	75	110
Uniaxial torque index (Nm/cm³)	16.3	20.6	19.9
Uniaxial back pressure (kN)	110	150	206
Overall dimensions (LxWxH mm)	850x580x1100	950x670x1250	1100x750x1350



Process of composite system	Polymer material blending system	Polymer material filling system	Fiber reinforcement comrosite system
<p>Shearing plasticizing Compounding with screw</p> 	  <p>2-phase has smooth and separated layers</p>	  <p>Nanoparticles agglomerate can't be opened by shearing stress</p>	  <p>Fiber has poor distribution and cut short</p>
<p>Elongation plasticizing Compounding with rotaor</p> 	  <p>Disperse phase and fibrous distribution</p>	  <p>Nanoparticles agglomerate is easily opened by positive stress</p>	  <p>Fiber homodisperse and retain the length</p>

Specifications

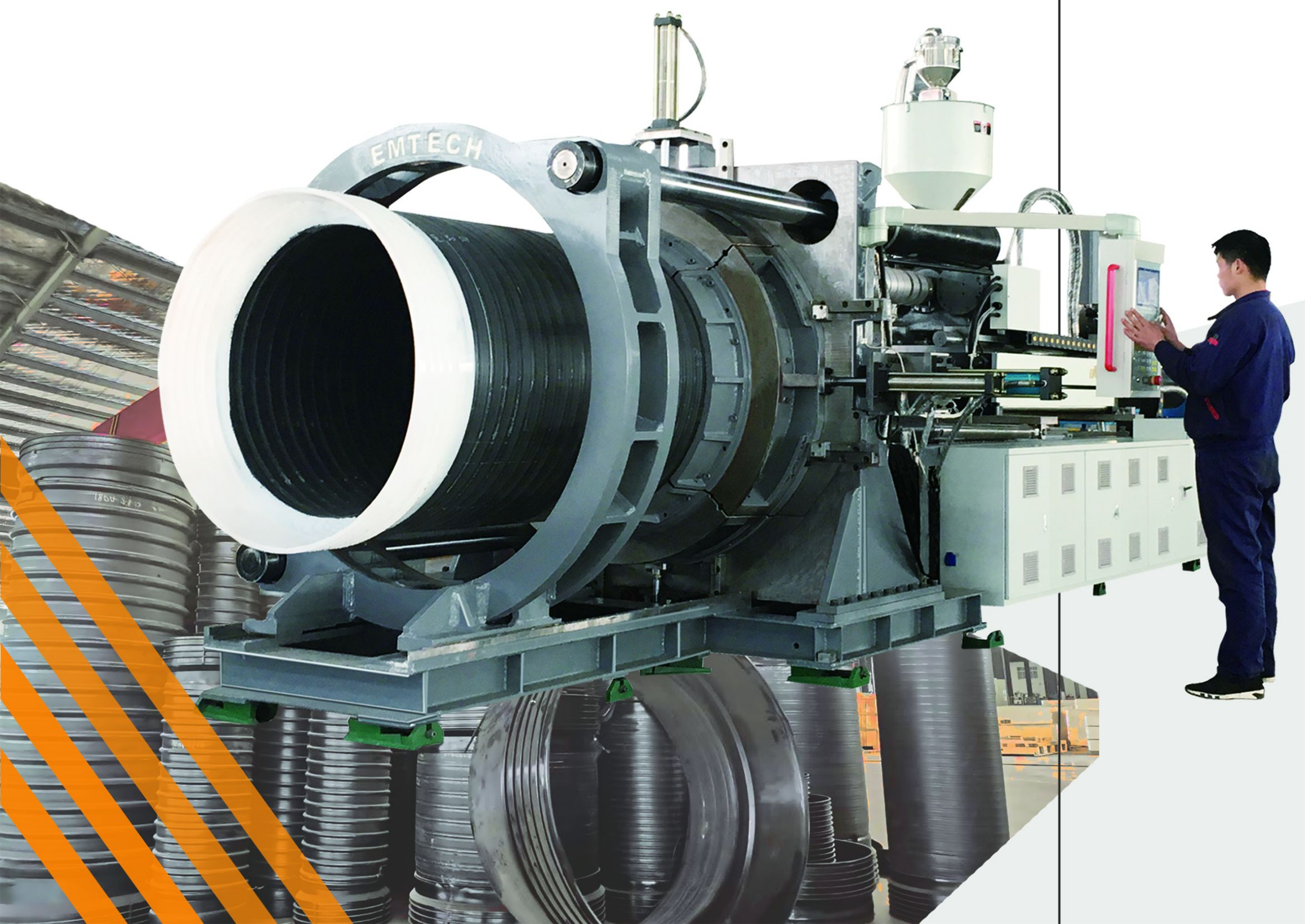
Type	Feature	Capability	Capability	Installed Power	Heating Power	Dimensions	Weight
		(mm)	(kg/hr PVC)	(kw)	(kw)	LxWxH (mm)	Kg
SJSM40	Twins-rotators/ Volume Peristaltic	40	55-70	15	6	2300x930x1500	1500
SJSM60		60	185-270	37	10	3000x1200x1900	3000
SJSM75		75	300-450	55	15	3600x1280x2500	4500

Machine Configuration

Main components	Item	Function and technical configuration		Origin
Plasticizing components	Rotor–Stator	Material 38CrMoAl HRC 32–36 HV 900–950		
		Stretch–compress ratio	determined as customer material	
	water ring vacuum pumps	MAX–0.1 Mpa		
Reducer trasnsmission components	Gear ratio	1:10 or 1:15		
	Gear material	20Cr2Ni4 teeth surface hardness HRC58–62 IT6		
	Bearing	live over 20,000 hr		
Heating component	IR heating rings	1/2/3 kw		China
Sensors	Thermocouple	K type 0–800℃		China/Imported
	Pressure sensor	0–150 Mpa		China/Imported
Electrical control component	Frequency changer	Delta/Siemens		Imported
	Motor	Variable–Frequency 4–6pole	Xianfeng/Sieme	China/Imported
	Electric relay	SSR	Qwifm/Omron	China/Imported
	Controller	PLC touch screen/parameter access/data locking		Imported
		temperature control: ± 1.5℃		
		Feeder/extruder/tractor synchronously or separately control		
	External interface	AC 380Vx2	AC 220V x2	

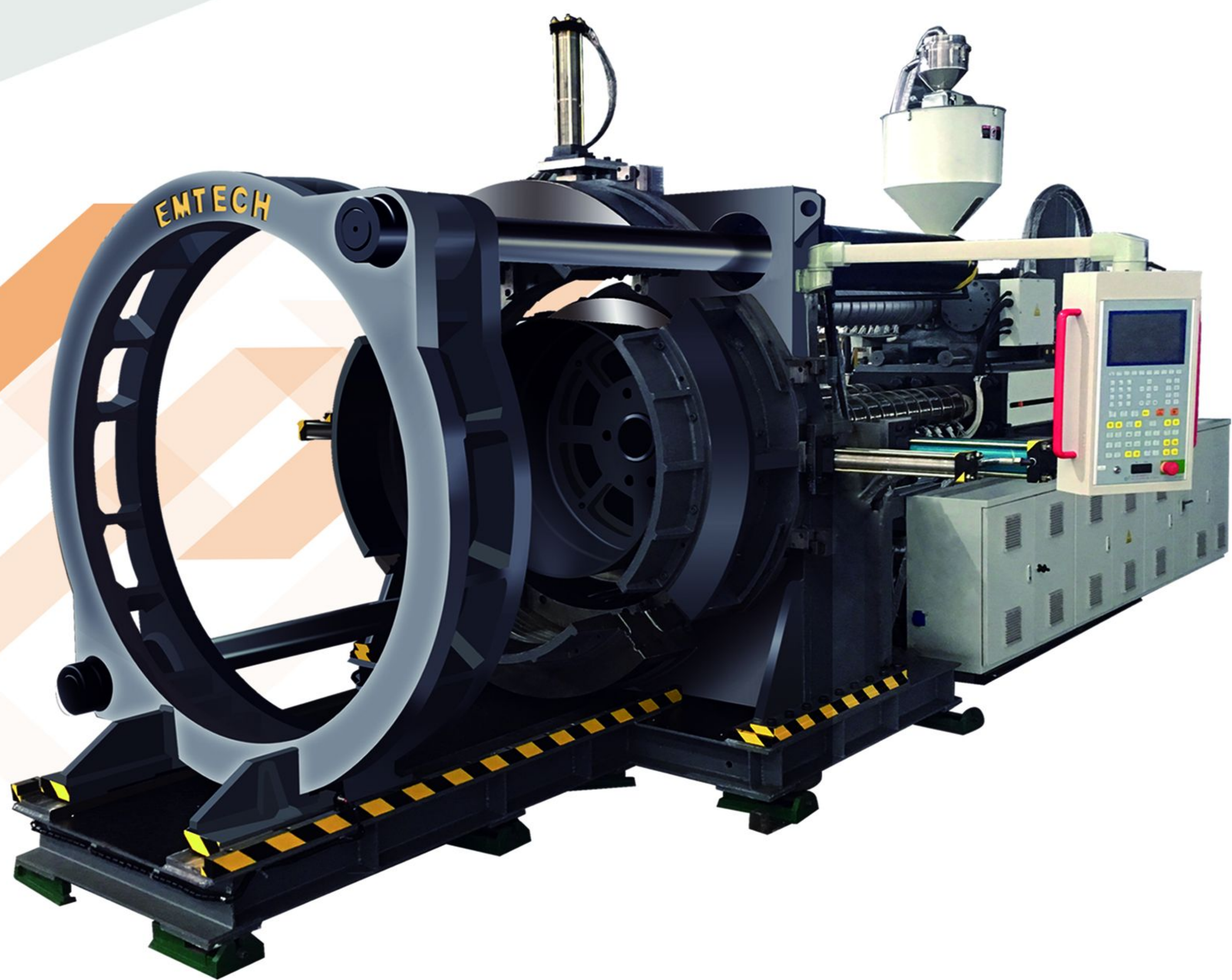
Injection Socketing Machine

- Multi-usage with one unit
- Heavy duty with small machine



Large Pipe Socketing Solution

The 4th generation of standard over-molding socketing machine was introduced in 2019. It is used for the injection molding of socket or electric fusion joint of steel belt reinforced pipe, hollow wall pipe, inner rib pipe, carat pipe and other plastic drainage pipes. The whole system covers sizes from DN200 to DN1200. Our customized machine can produce DN1600 electric fusion joint. The standard model has the characteristics of compact structure, high efficiency and energy saving. It adopts the principle of high pressure and quick injection to quickly fill the cavity, which is more suitable for PE/PP adhesive with low FMI. Under the premise of ensuring the ring stiffness, the wall thickness can be effectively reduced and lighten product weight. An innovative EMTECH machinery is willing to help the plastic pipe manufacturers to connect more quickly to the future!

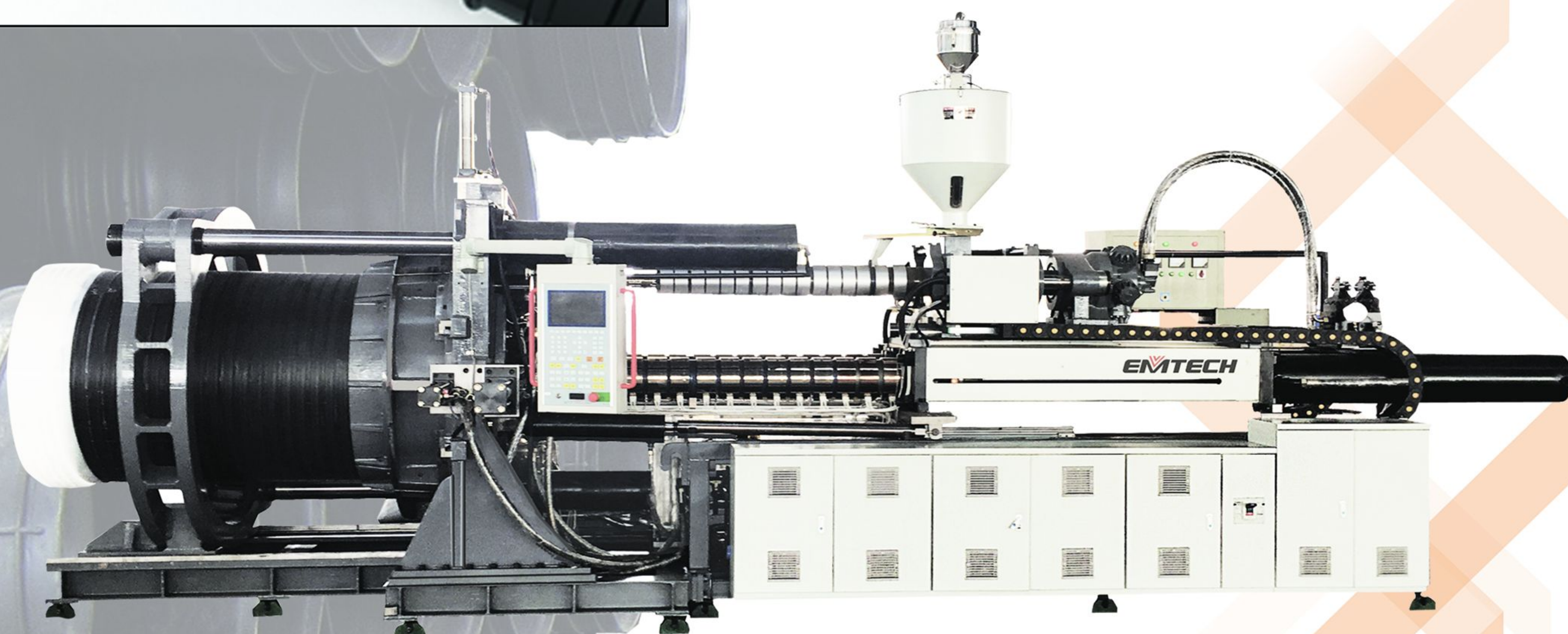


	Injection molding	Extrusion molding	Extrusion winding
Installed Power	58	230	100
Motor type	Servo motor	Asynchronous motor	
Floor area (m ²)	24	80	80
Injection pressure	Adjustable in stages	Nonadjustable	×
Injection speed	Adjustable	Nonadjustable	×
Molding process	Excellent	normal	×
Weight (DN600)	6kg	7.8kg	20kg
Product Compactness	excellent	insufficient compactness	low
Product Precision	High precision	medium	low

Multi-usage with One Unit

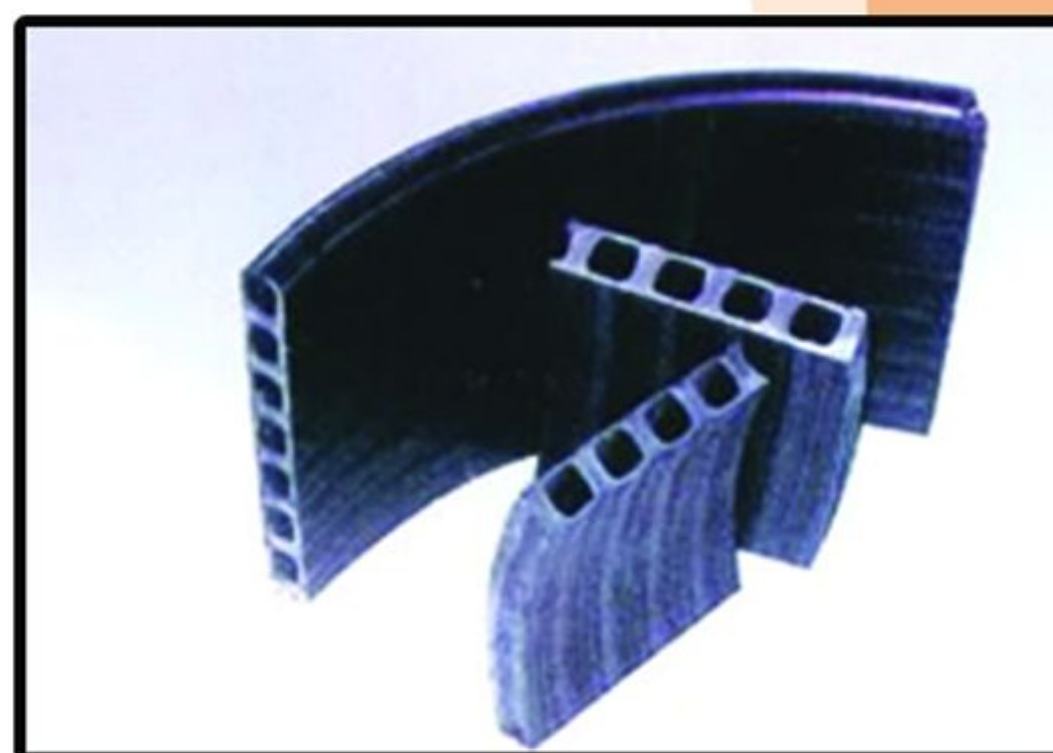
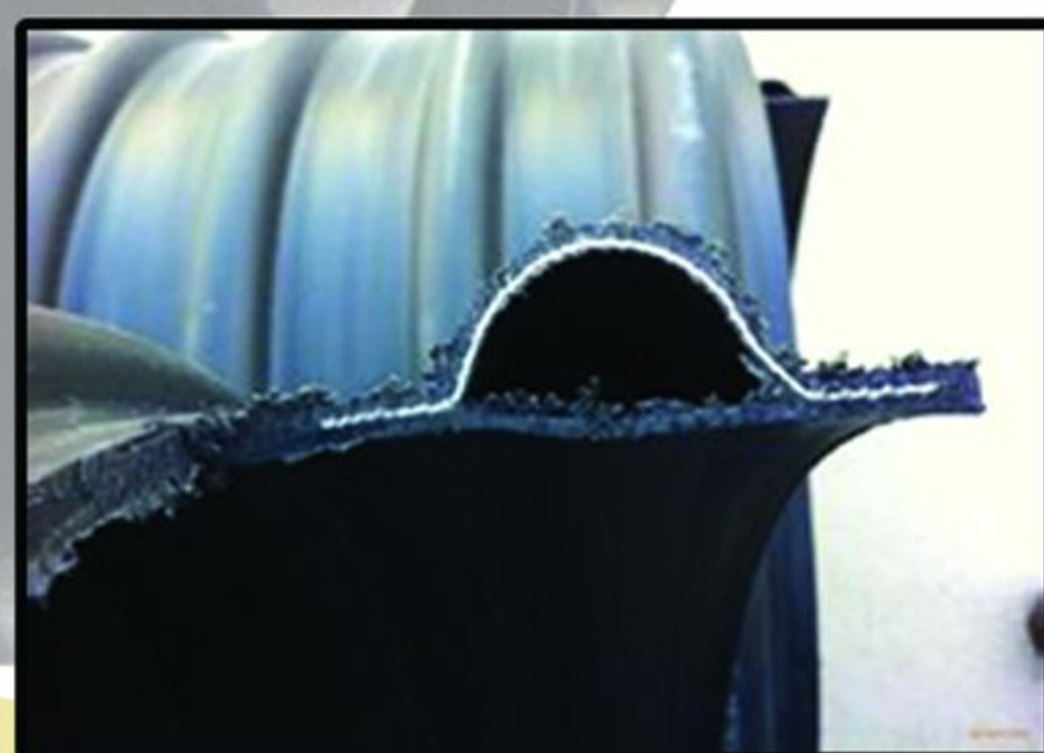


There are many ways to connect municipal plastic drainage pipes. The long-term practical application has proved that, no matter from manufacture or construction convenience, the high-speed and pressure injection-molded socket has obvious advantages over other methods. The large diameter injection mold and injection unit developed by EMTECH with several invention patents provide a set of mature and convenient solutions for municipal plastic pipe connections.



PE and PP over-molding socketing machine is suitable for the most of drainage pipes in the market. With one high volume injection unit, only by change the molds, the machine can achieve different sizes of sockets and spigots. A machine with multi-usage can reduce investment and reduce the cost of post processing.

Suitable for most municipal water supply





Production Capability

		Product weight						
Corrugated pipe		DN300	DN400	DN500	DN600	DN800	DN1000	DN1200
Socket		2.3	3.2	4.2	5.9	9.2	12.8	16.5
Spigot		2.1	2.7	4	5.1	9	11.5	14
		Cycle time reference						
Socket		3	4	5.5	6.5	10	15	20
Spigot		3	4	5	6	10	15	20





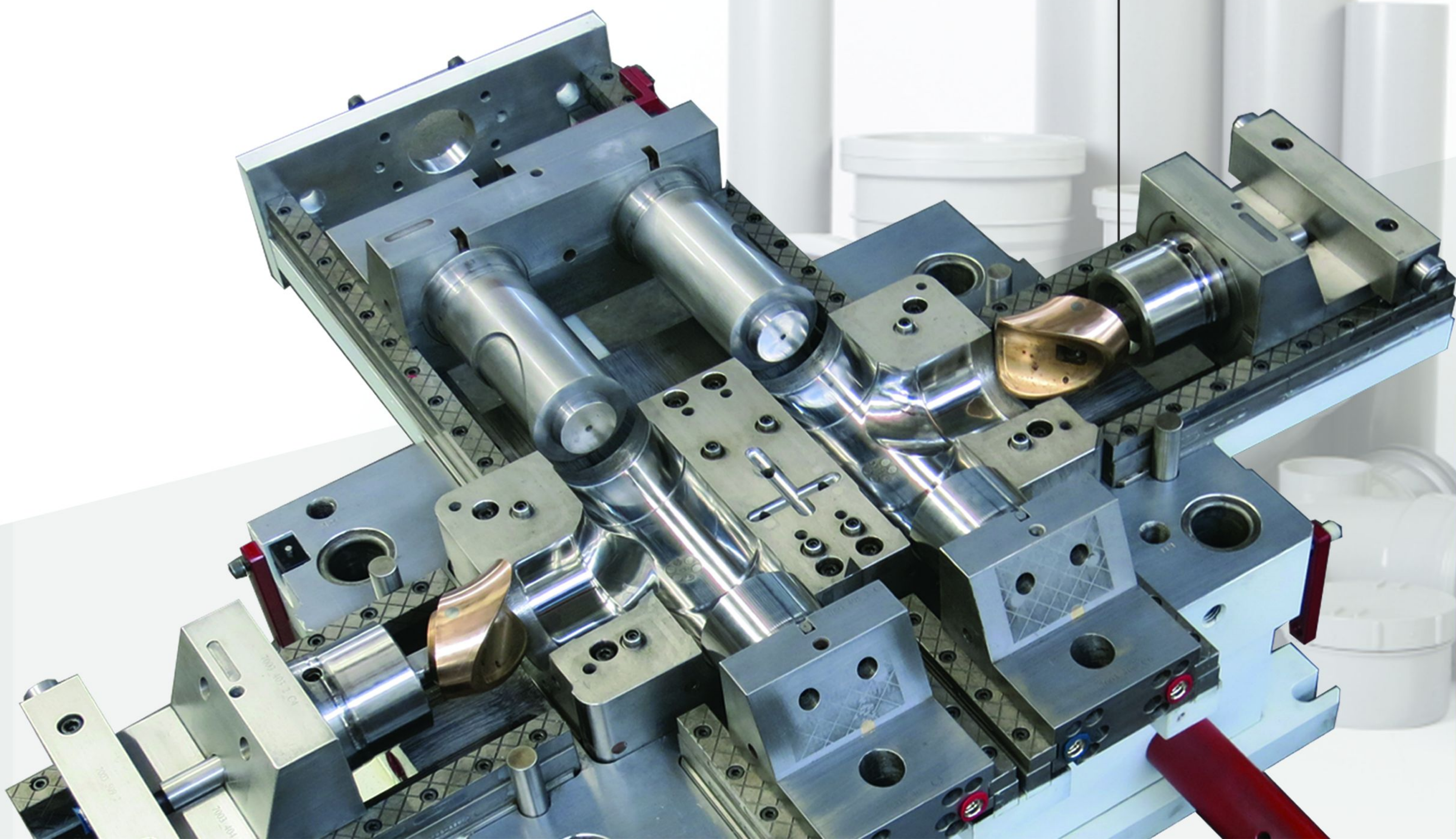
LARGE PIPE SOCKETING SOLUTION

Machine Specifications

Type	M800-12B	M1200-24B
Diameter	DN200-DN800	DN200-DN1200
Weight	≤10Kg	≤20Kg
Material	PP、PE(MFR 2~3g/10min 2.16Kg)	
Pipe type	steel belt reinforced pipe, hollow wall pipe, inner rib pipe, carat pipe..	
Socket type	Sopigot-socket with sealing ring, electric fusion	
Molding method	High speed and pressure over-molding	
Injection pressure	10~40MPa	
Injection speed	50~600g/s	
Motor type	Servo motor (made in Italy)	
Servo motor power	23Kw	29Kw
Heating Power	34Kw	61Kw
Installed power	58Kw	90Kw
Operating power	≈40Kw	≈60Kw

High productivity

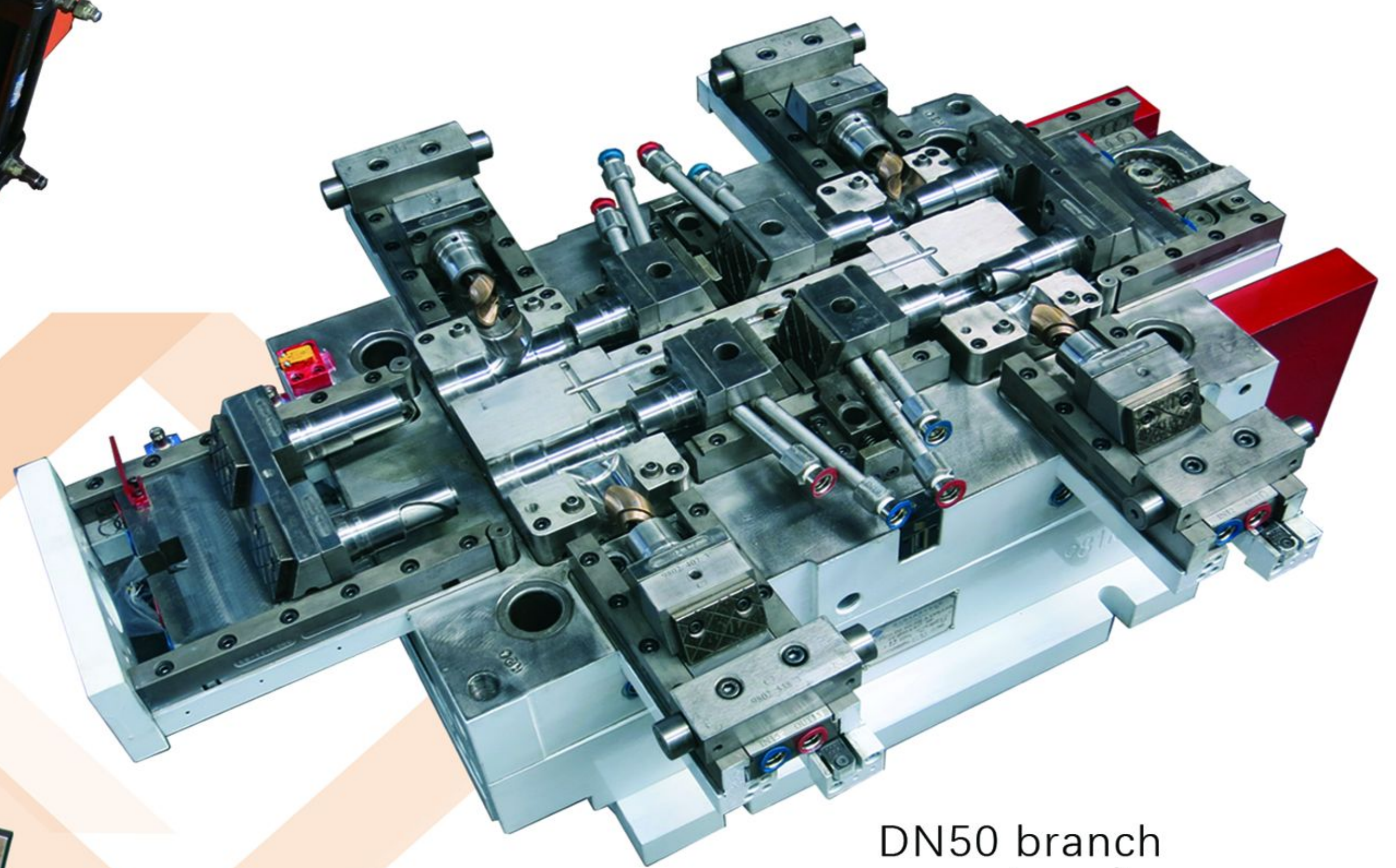
More reliable



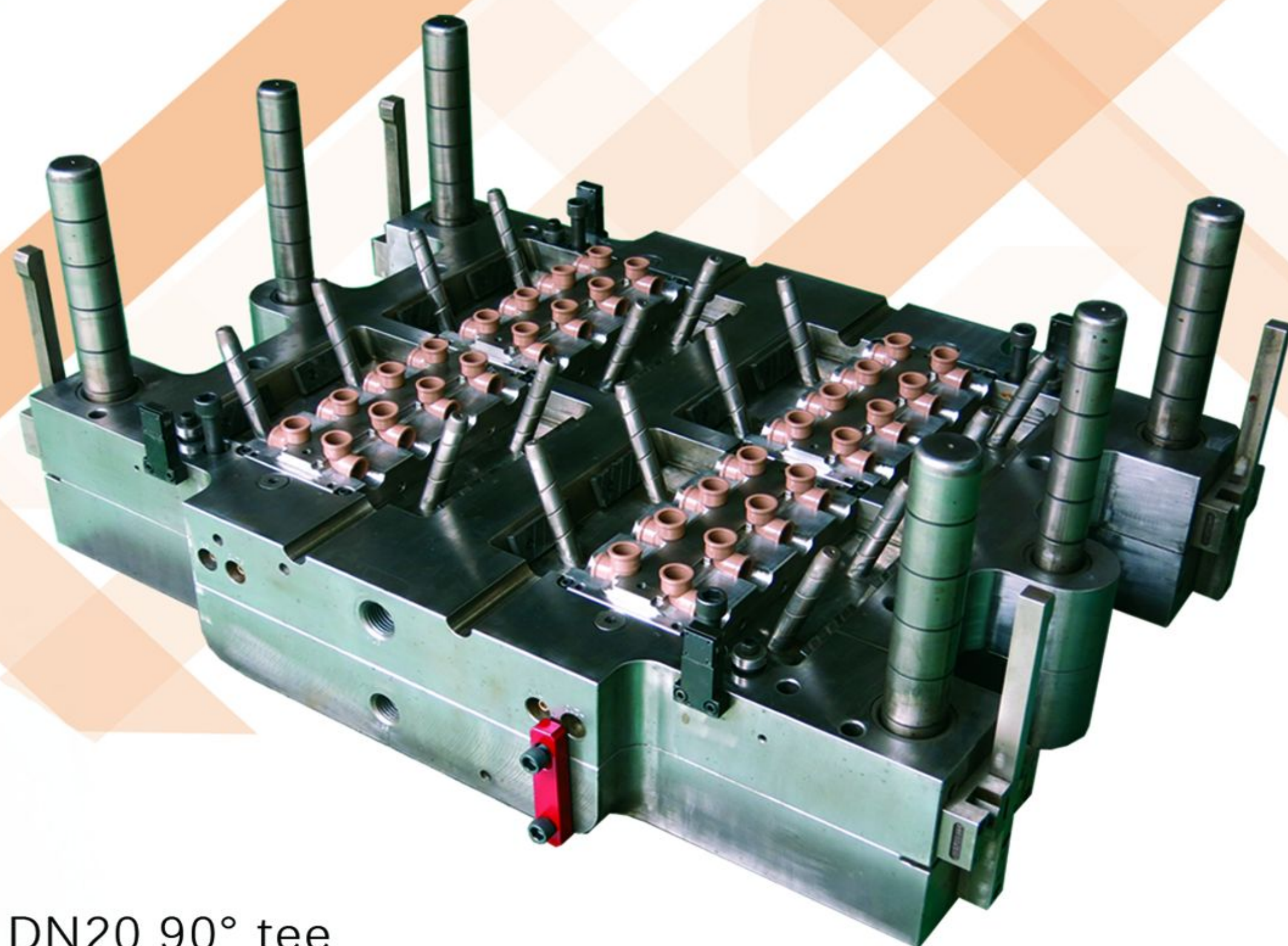
High Productivity



DN110 45°elbow
(Socket-socket) 8 cavity

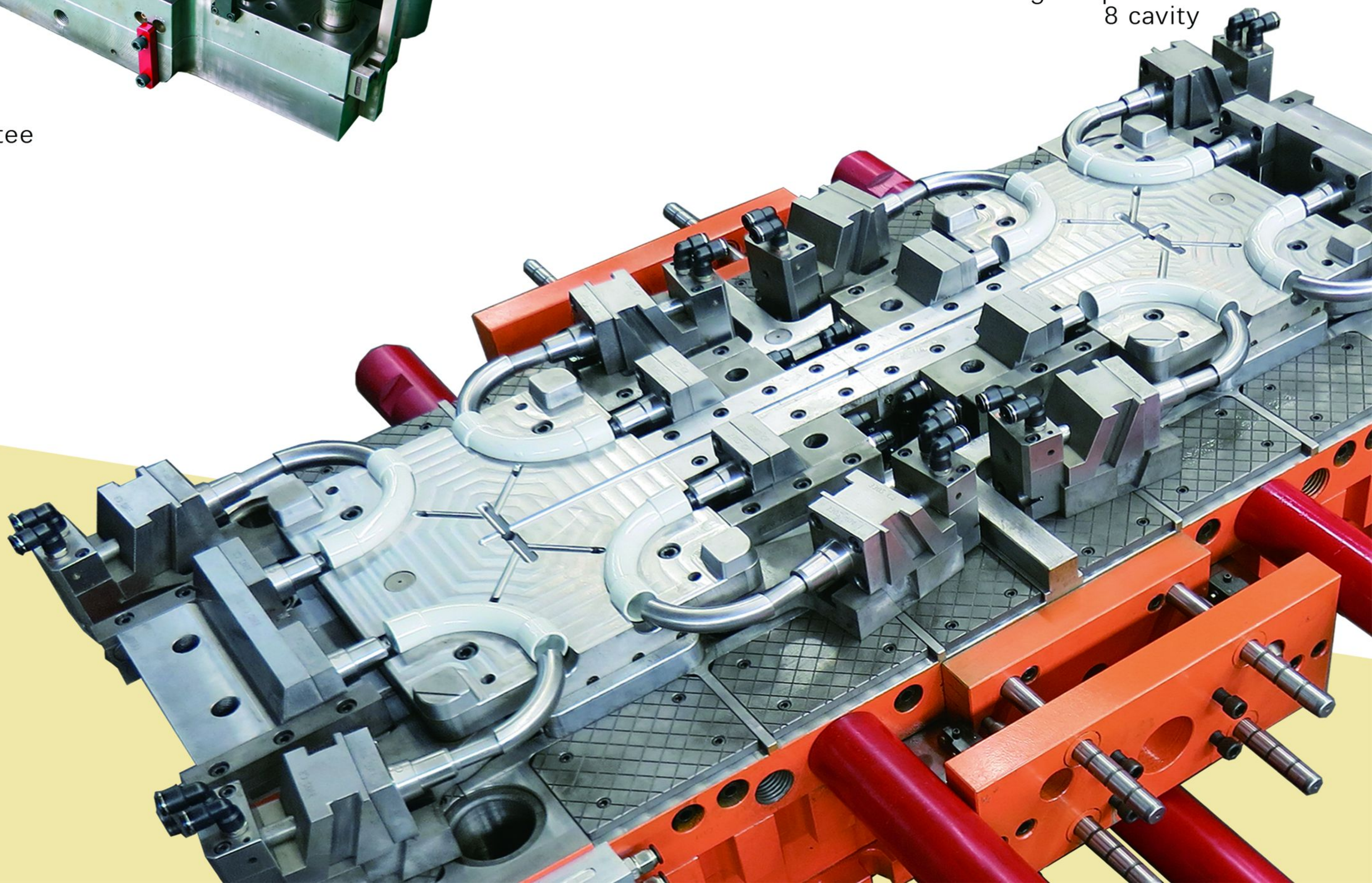


DN50 branch
4 cavity

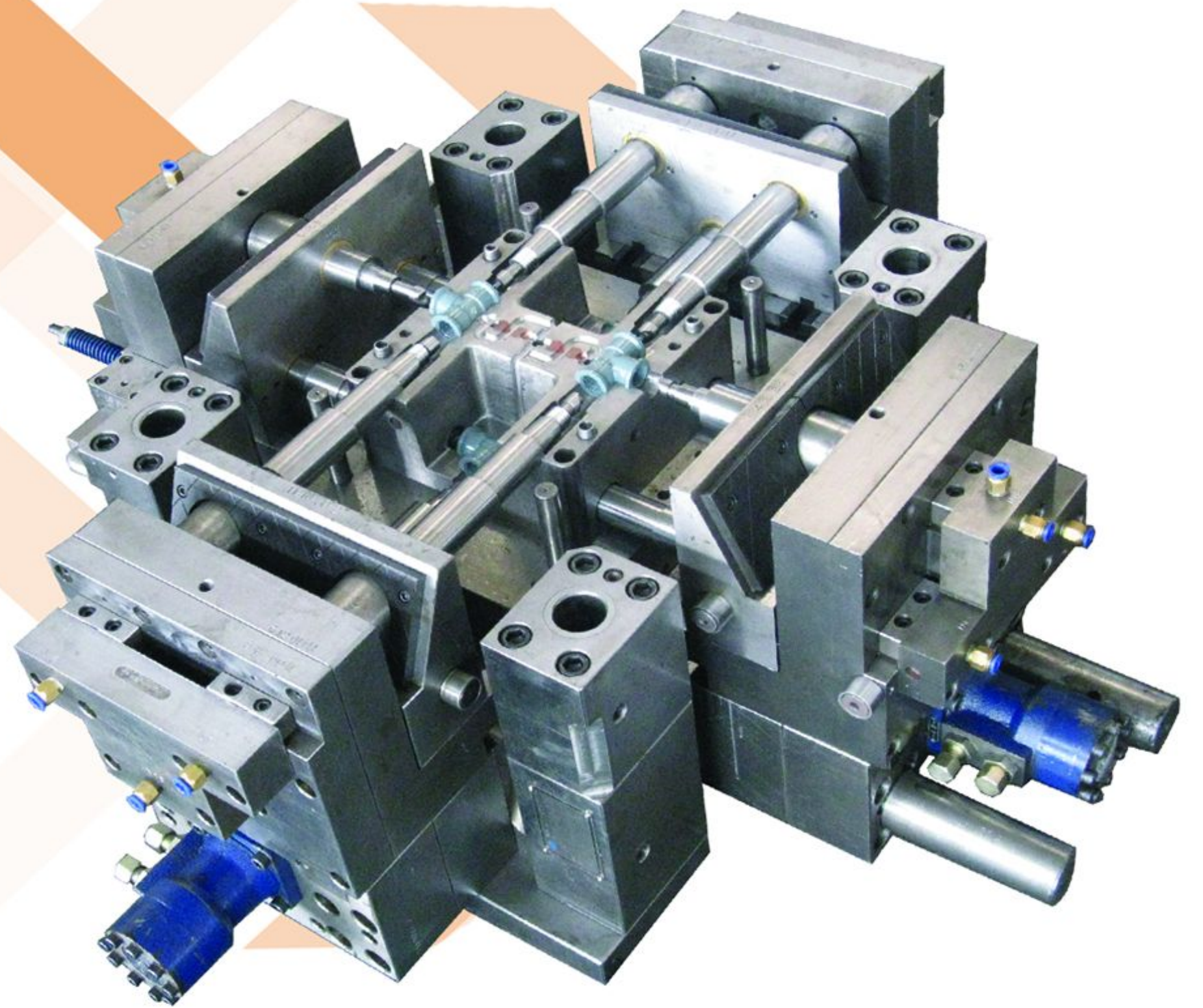


DN20 90° tee
32 cavity

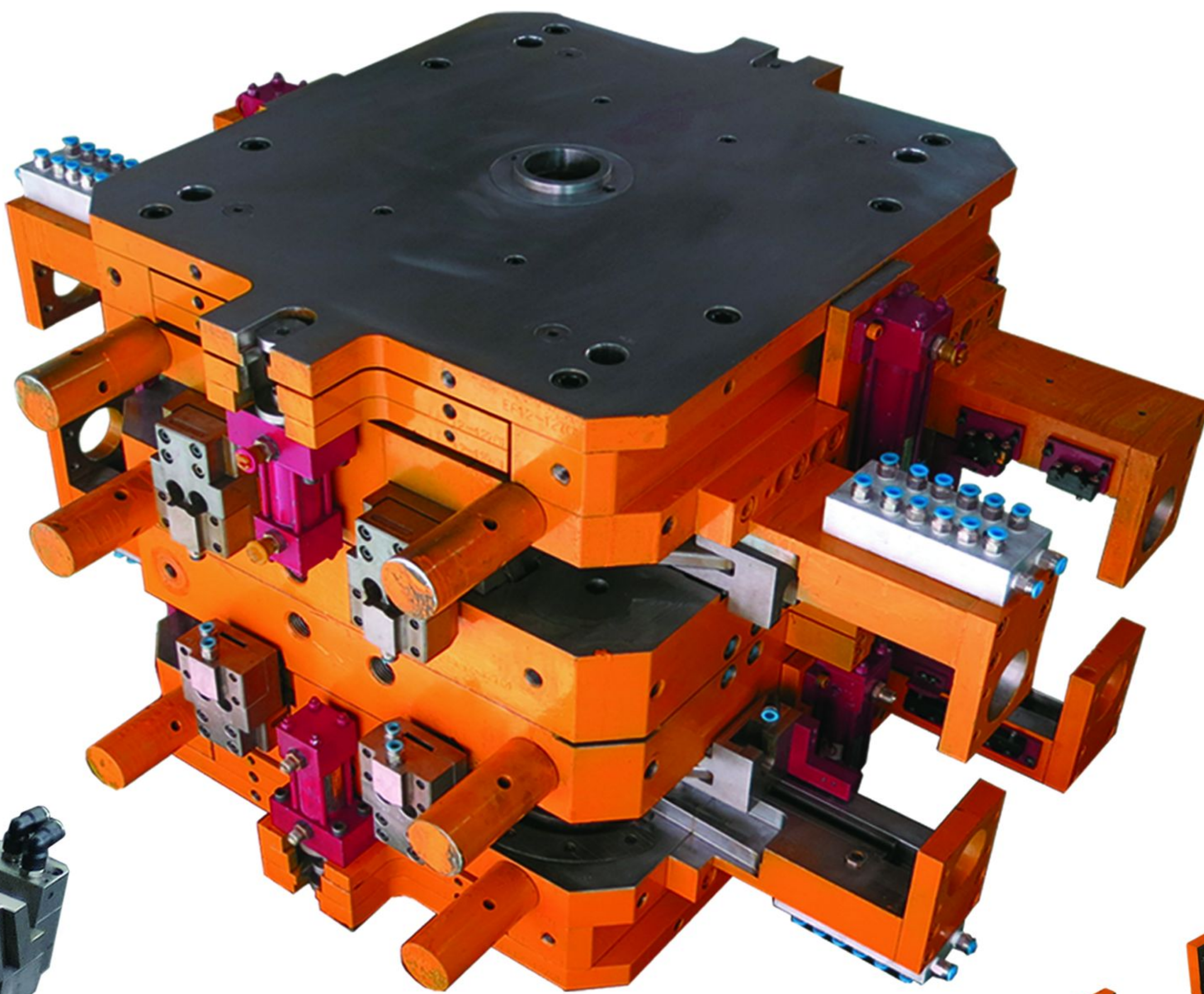
DN32 90°
big swept bend
8 cavity



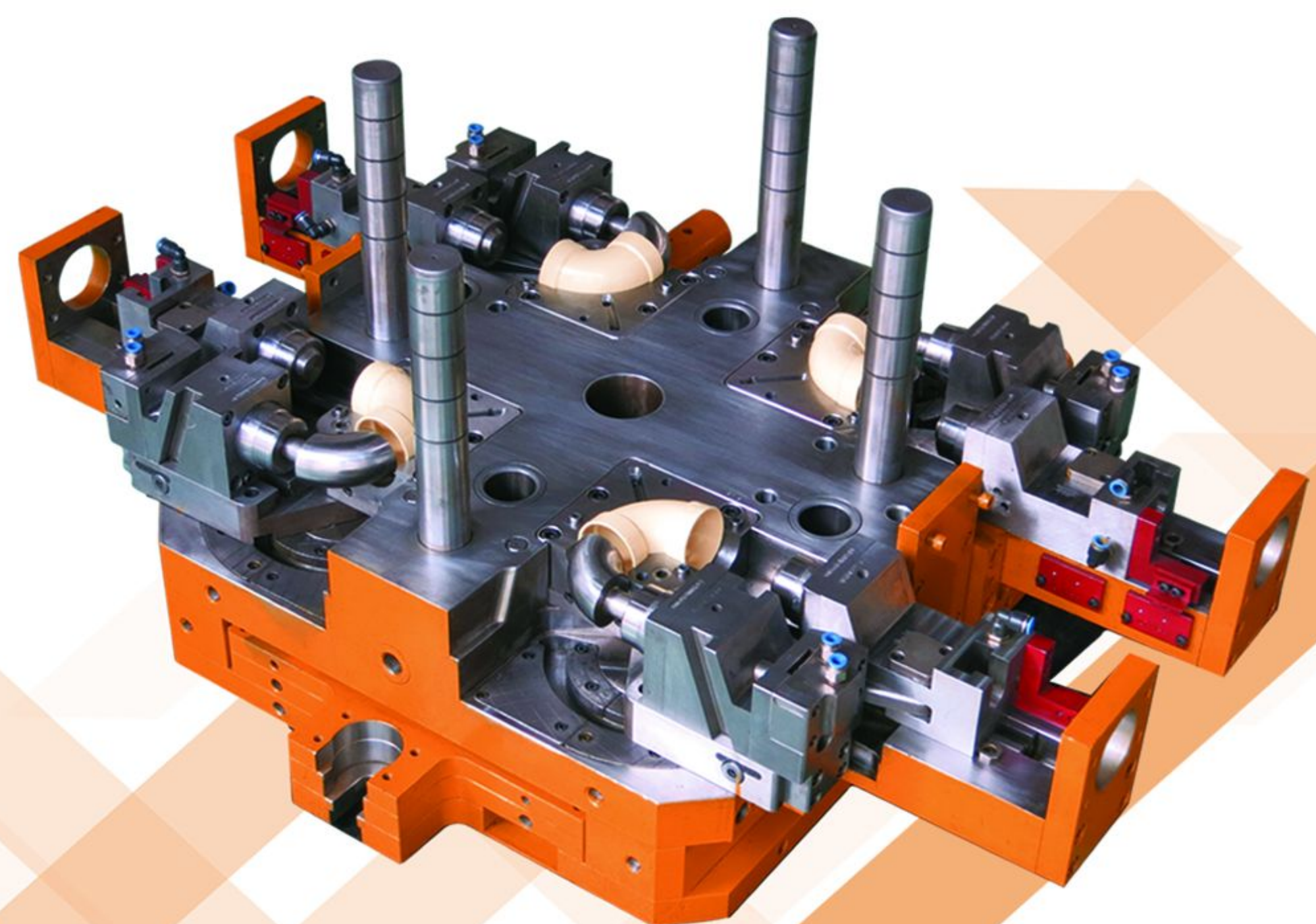
High Productivity



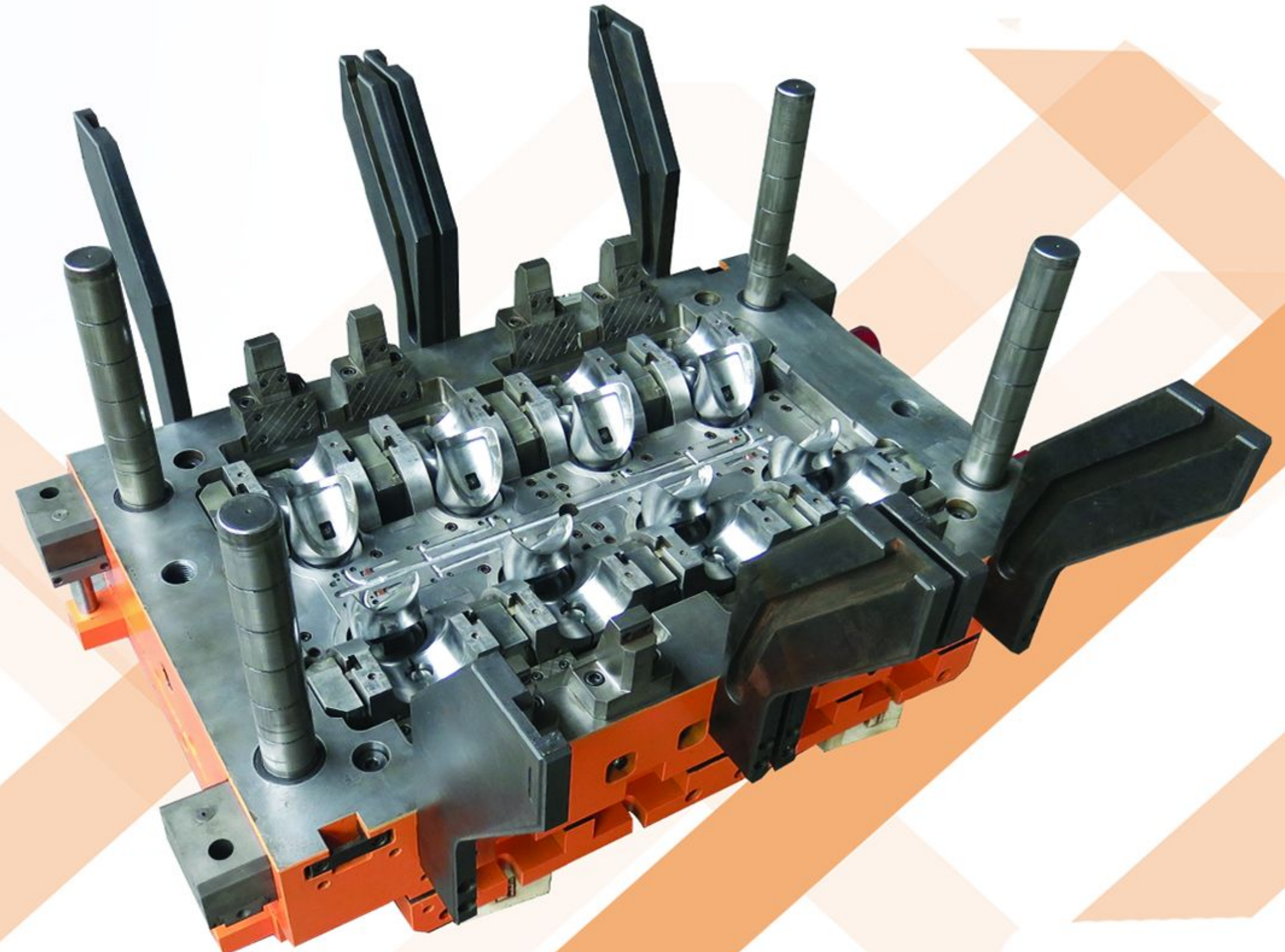
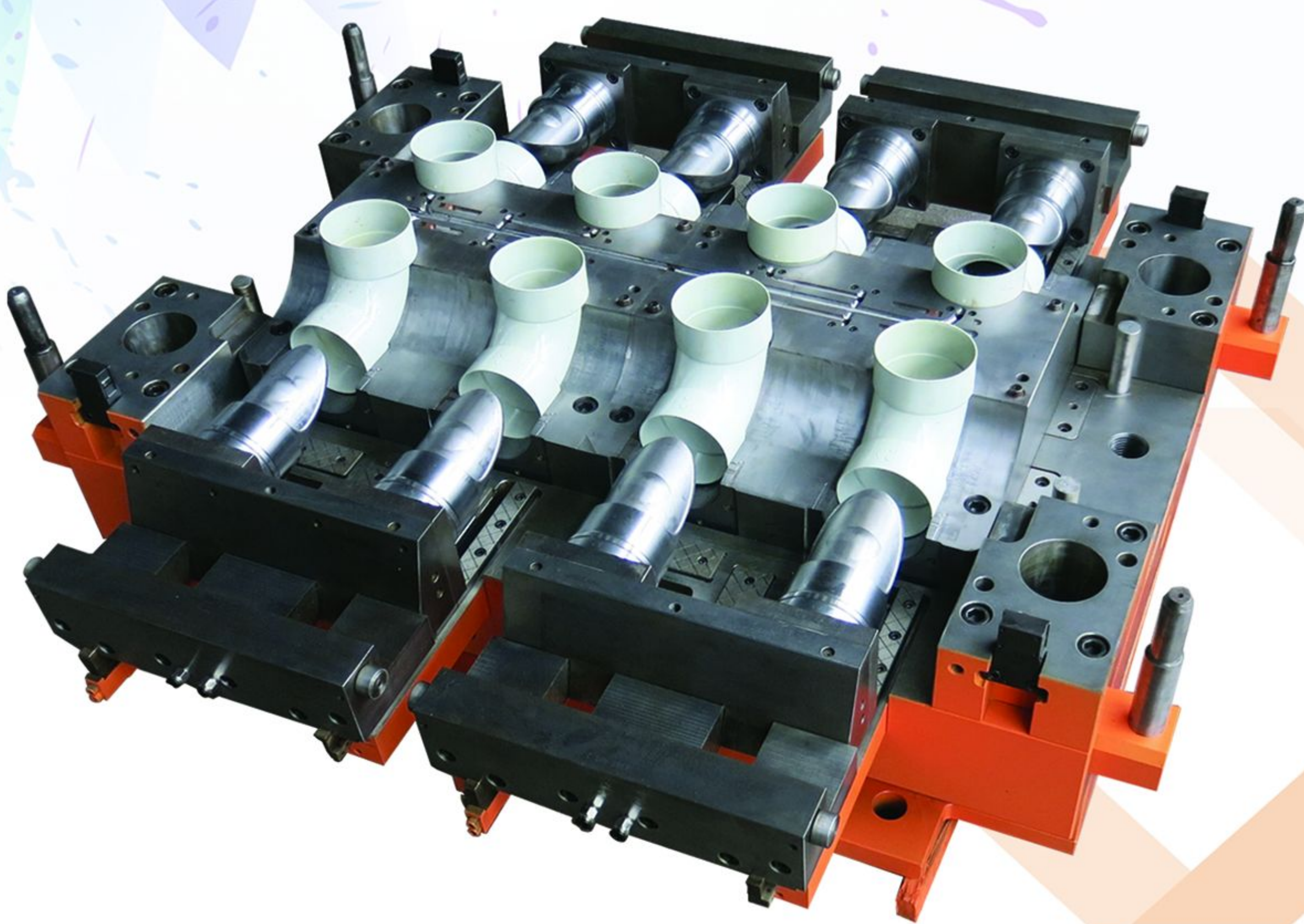
DN25 inner threaded tee
4 cavity



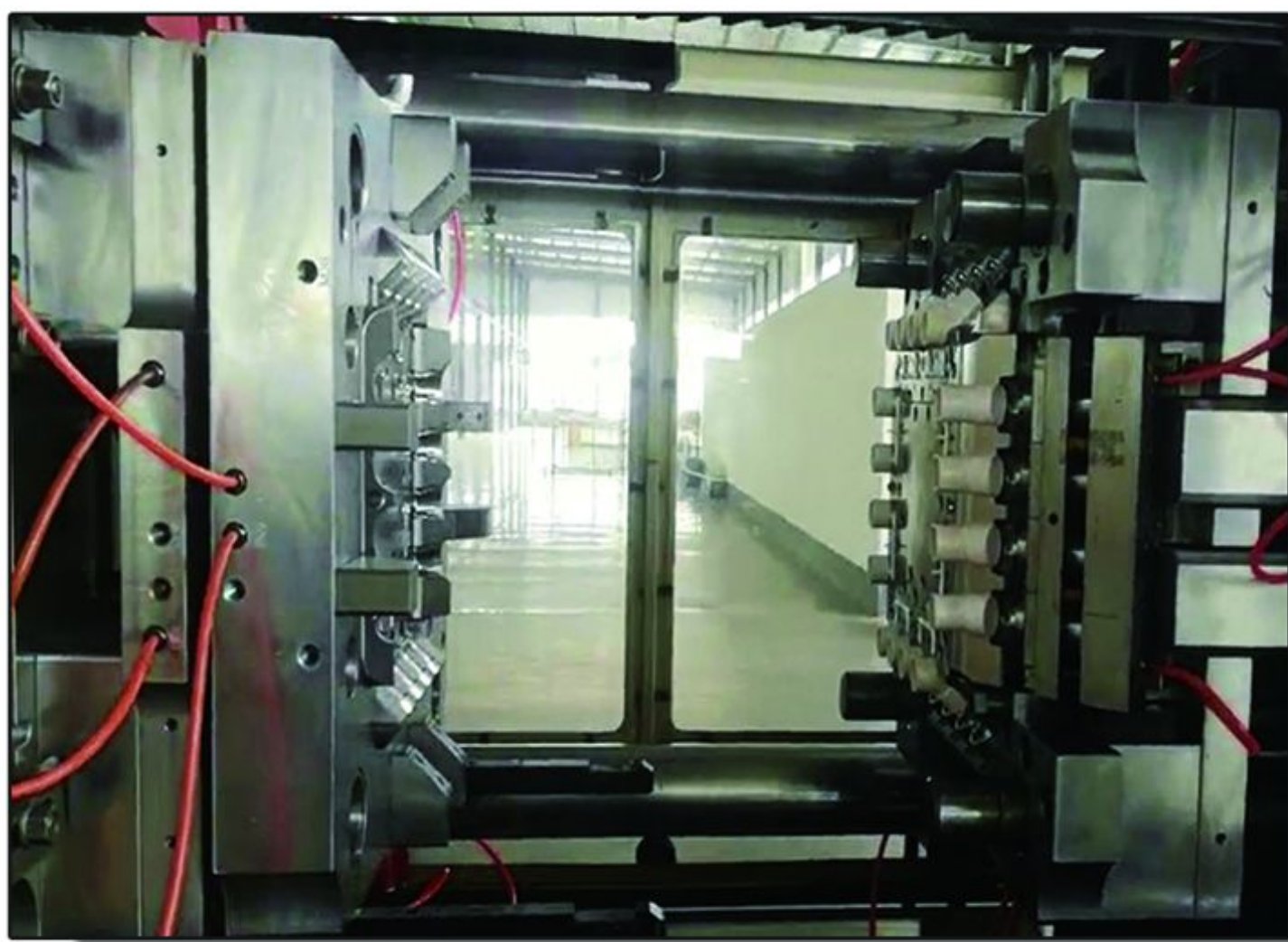
DN50 90° bend
8 cavity (stack mold)



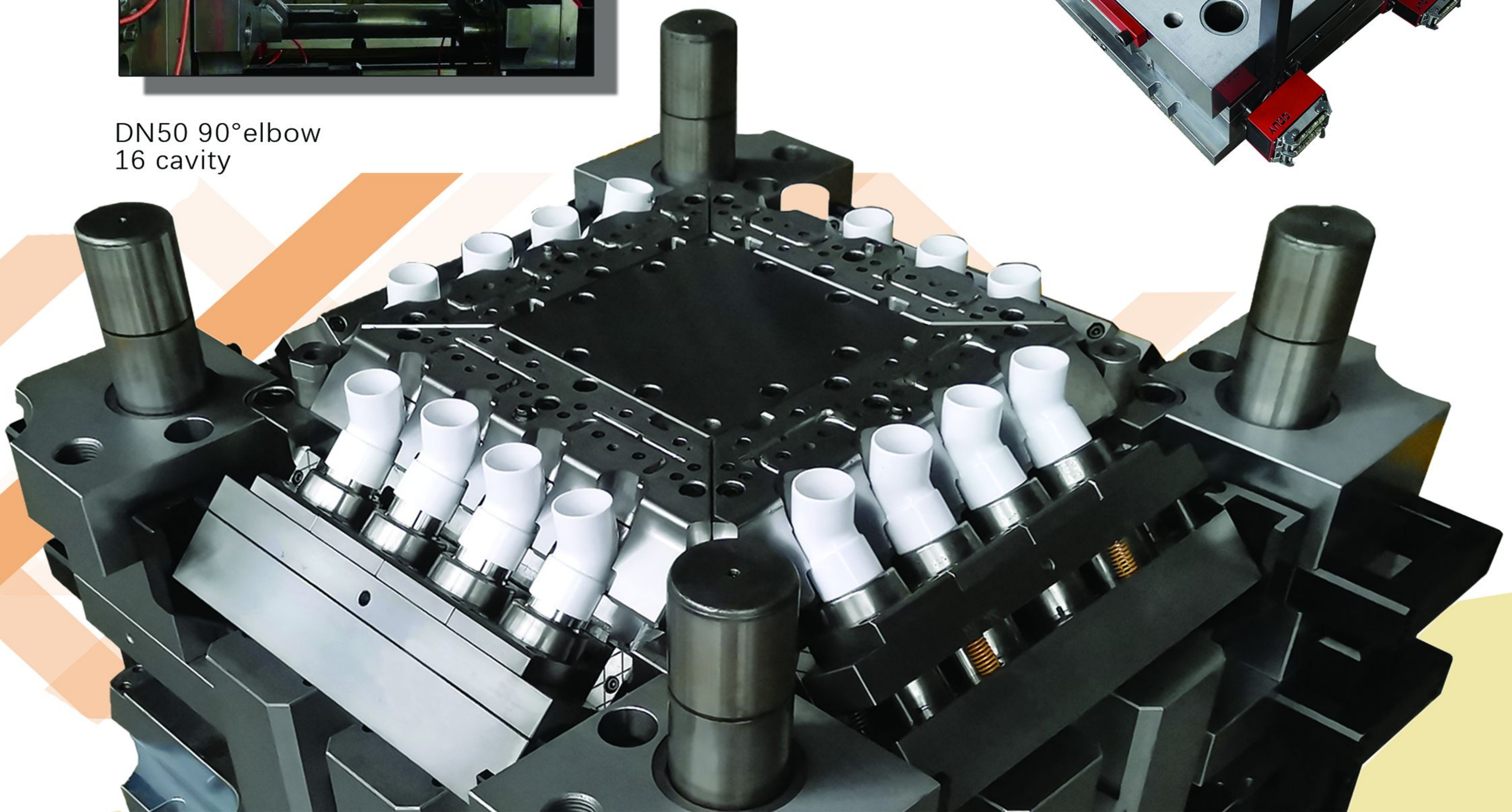
High Productivity



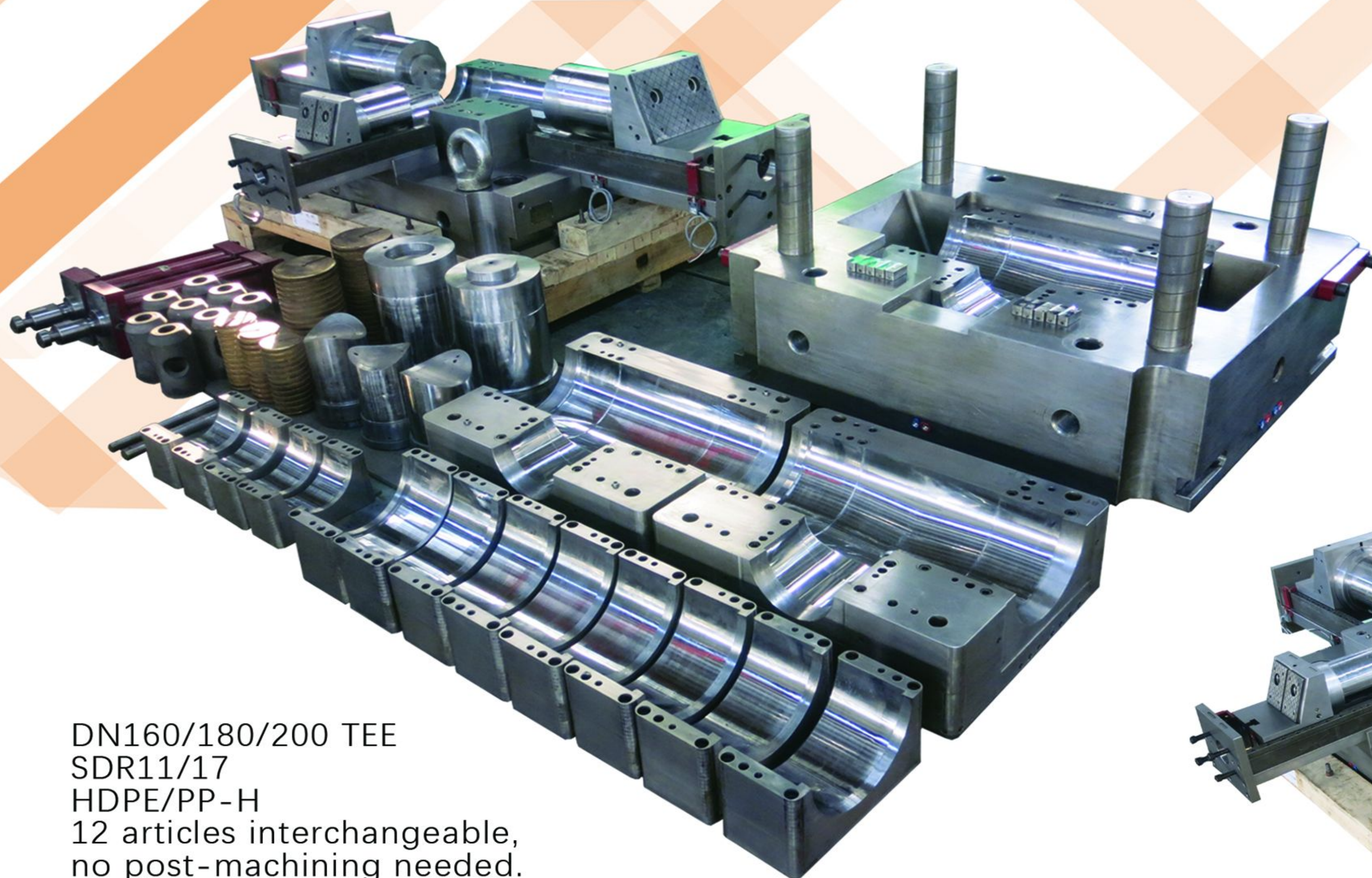
DN110 90° bend (socket-socket)
8 cavity



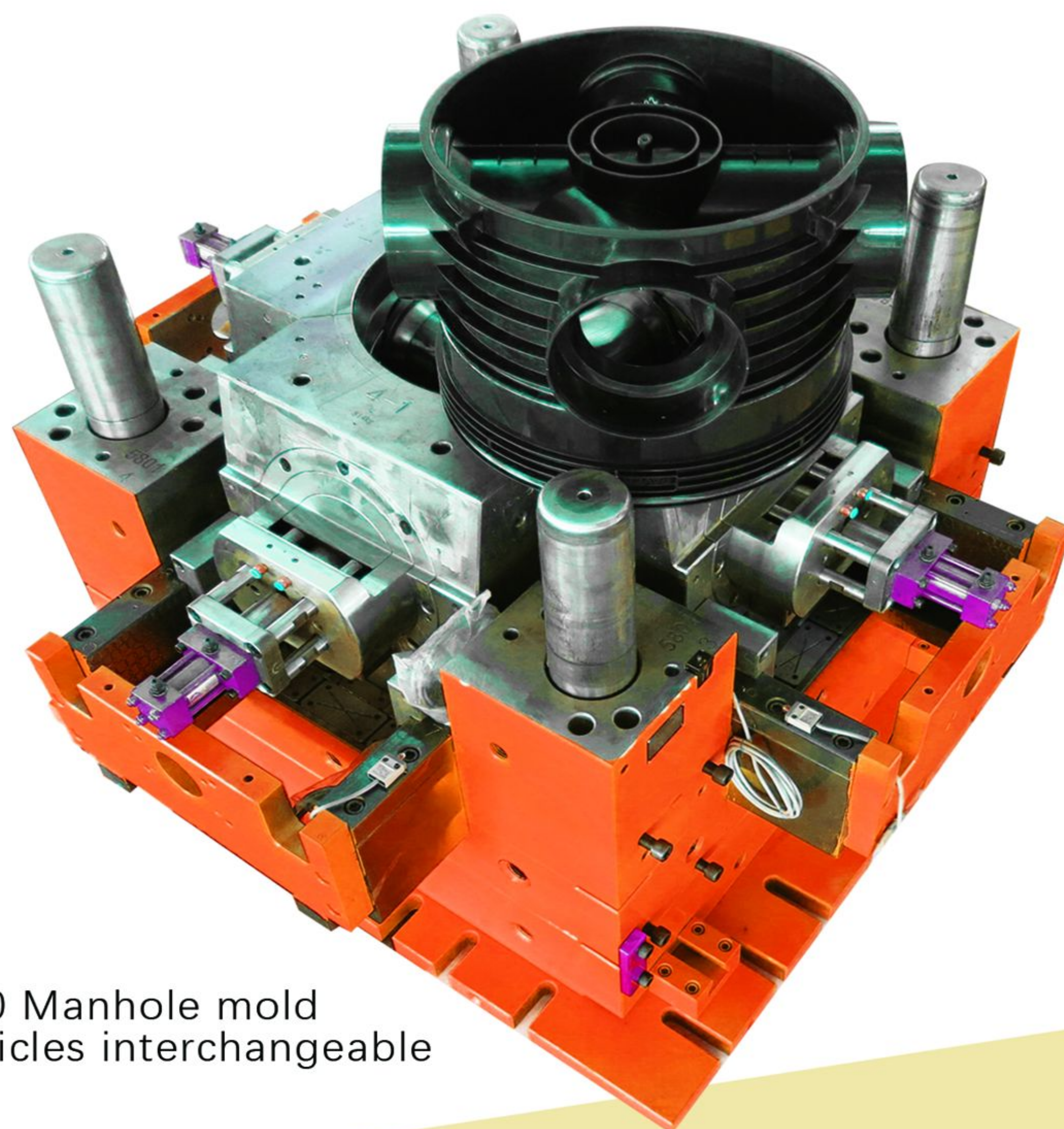
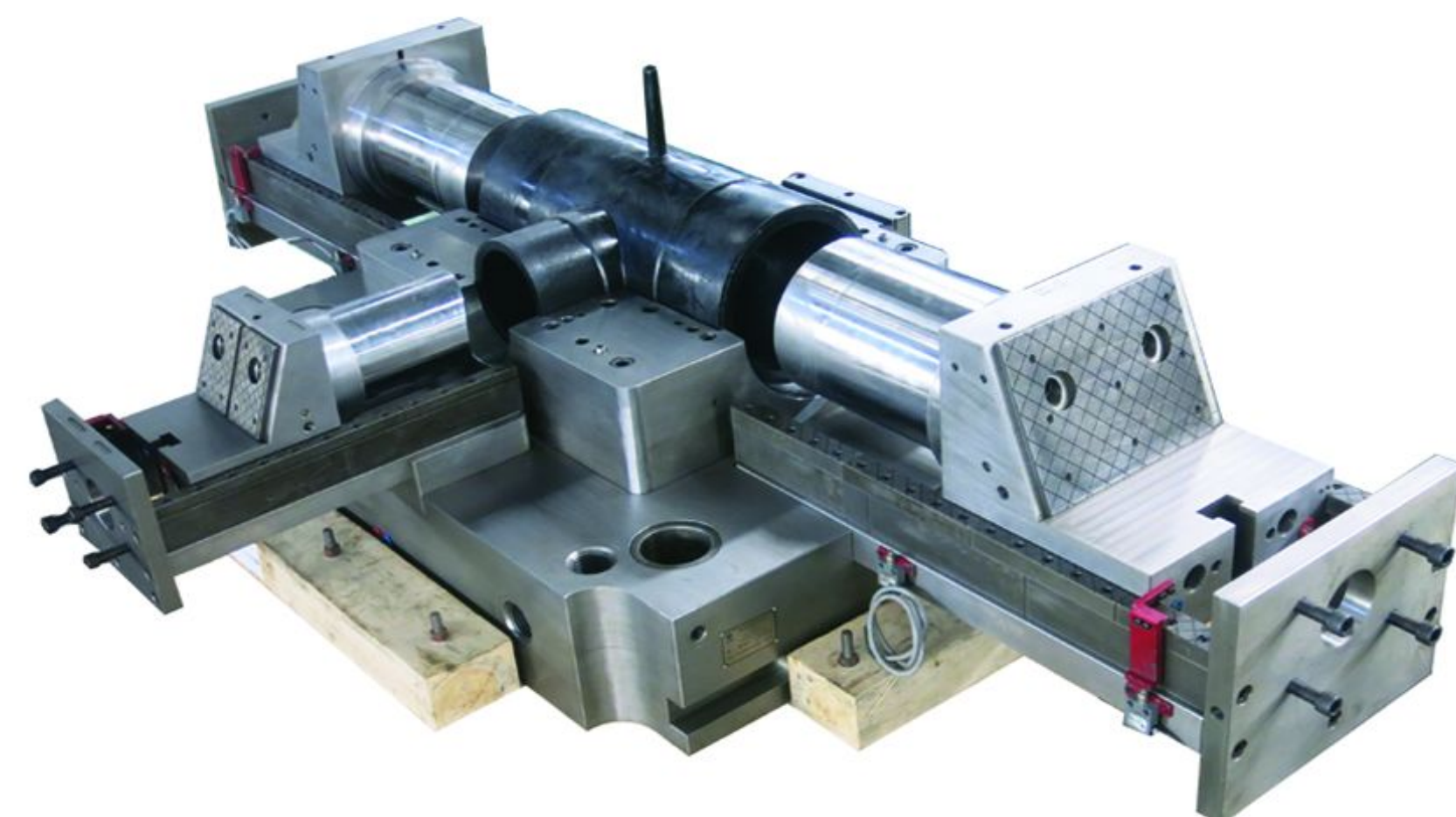
DN50 90° elbow
16 cavity



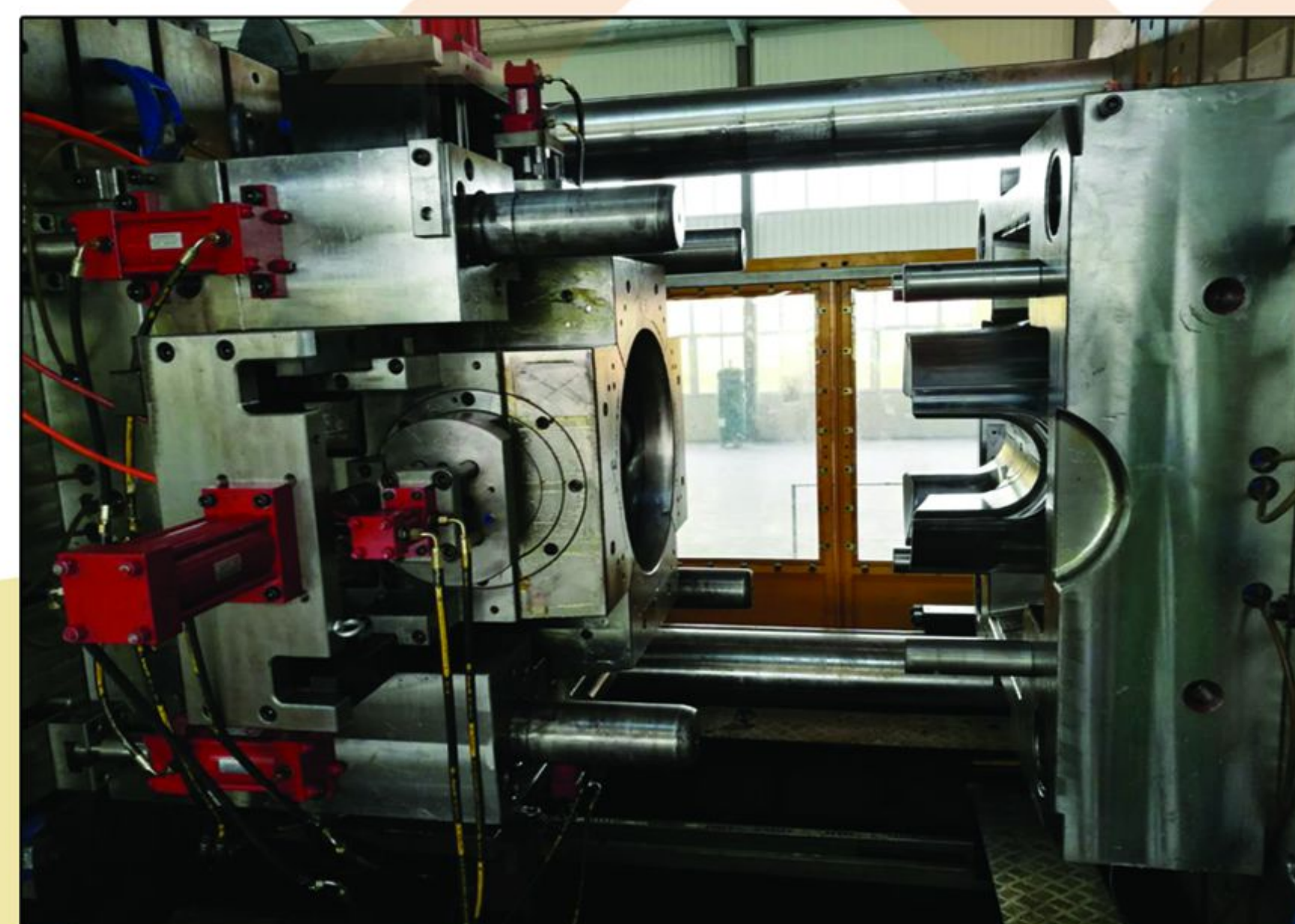
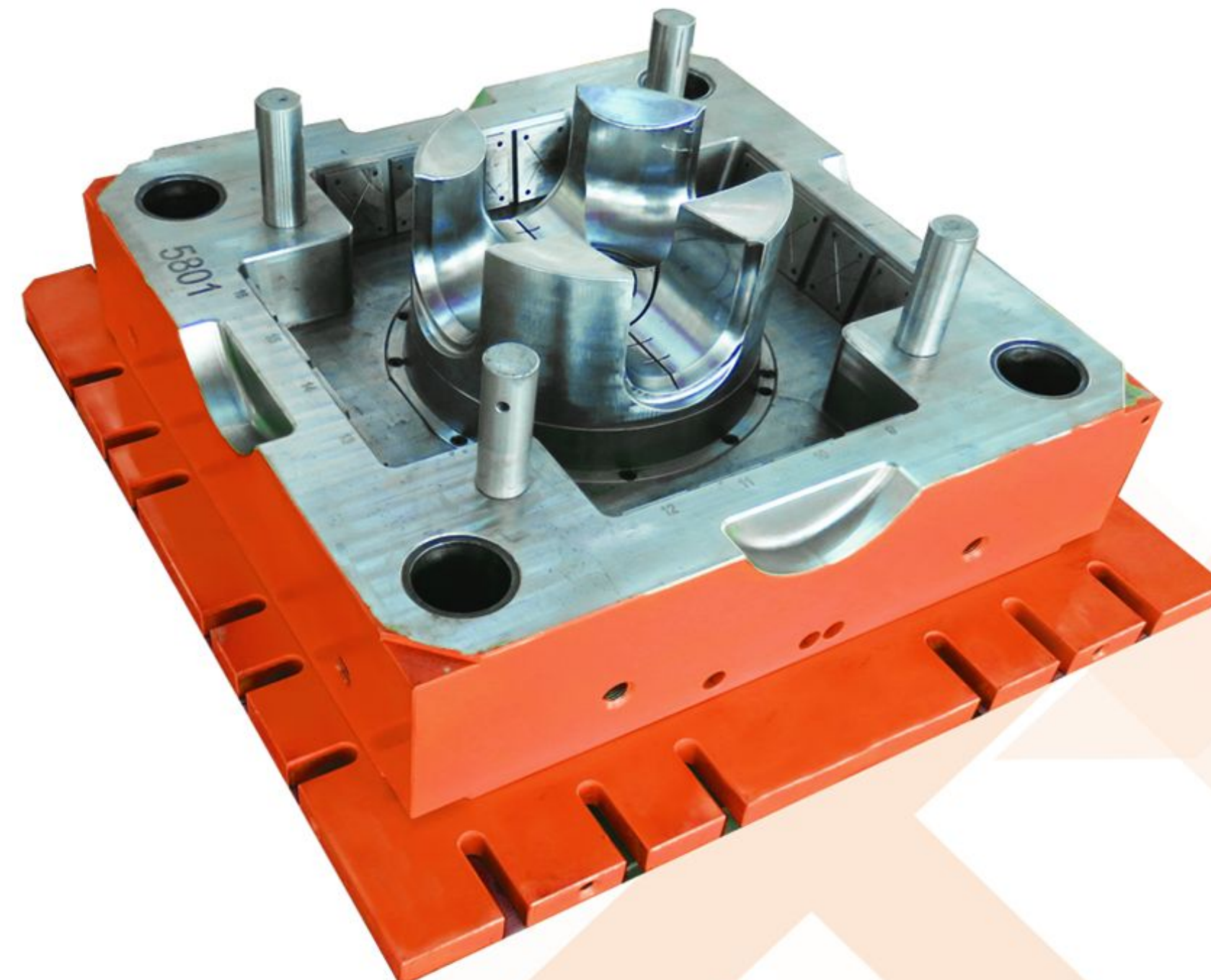
Interchangeable Mold

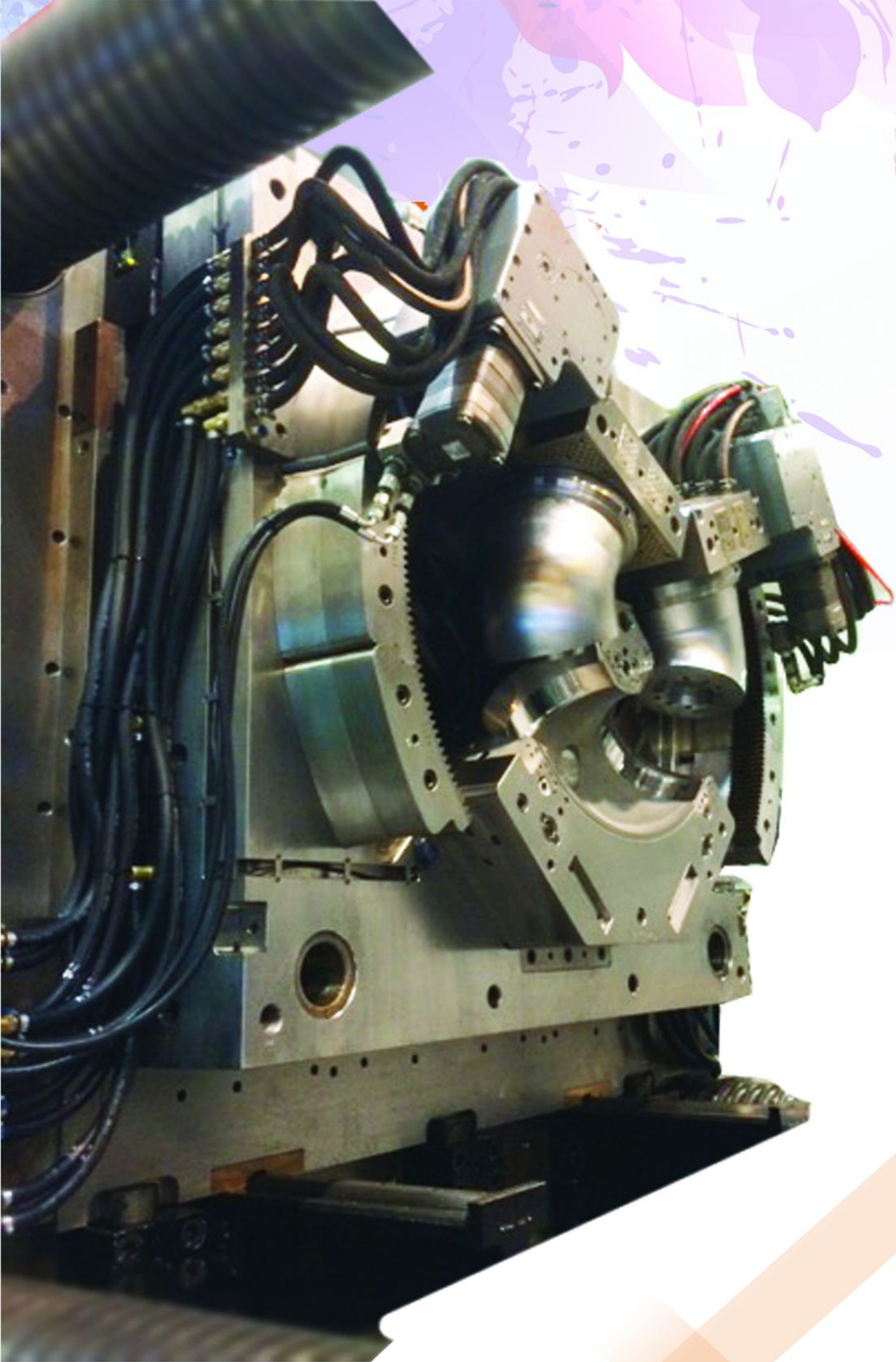


DN160/180/200 TEE
SDR11/17
HDPE/PP-H
12 articles interchangeable,
no post-machining needed.

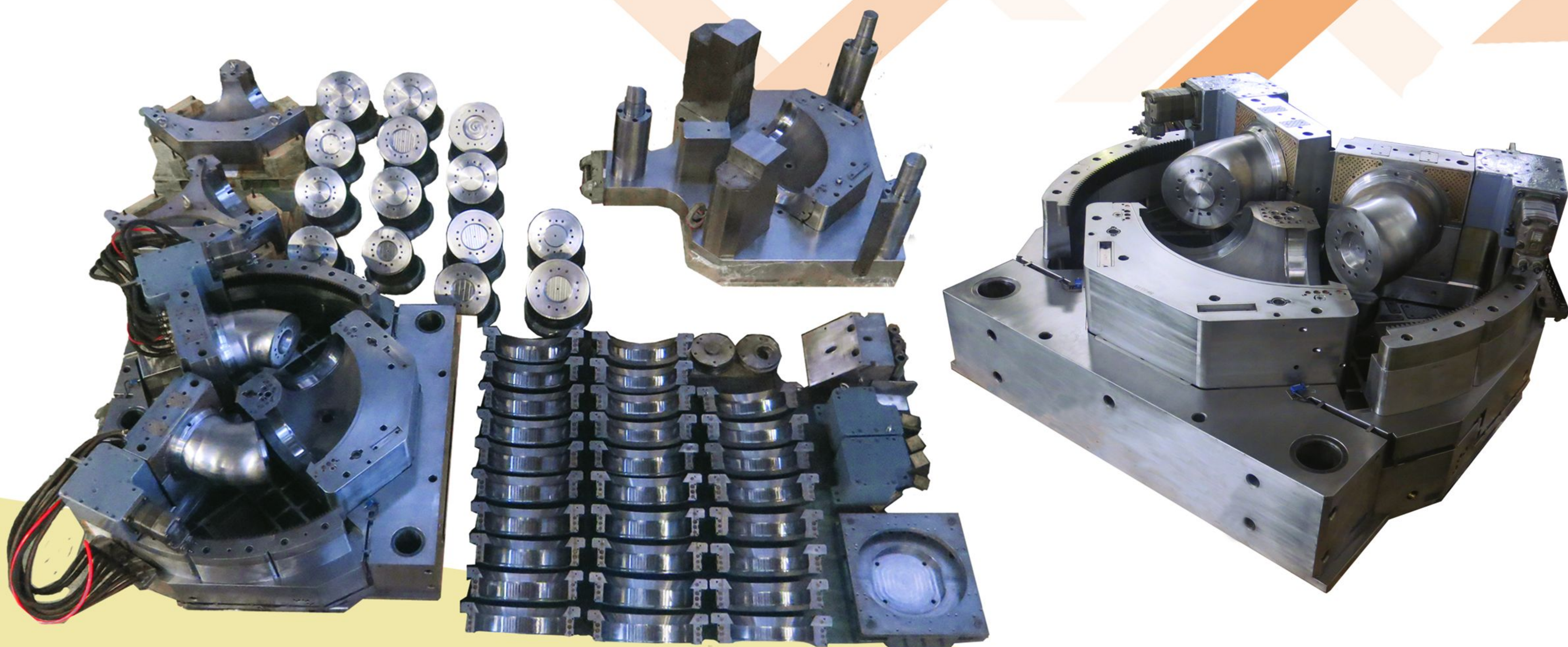


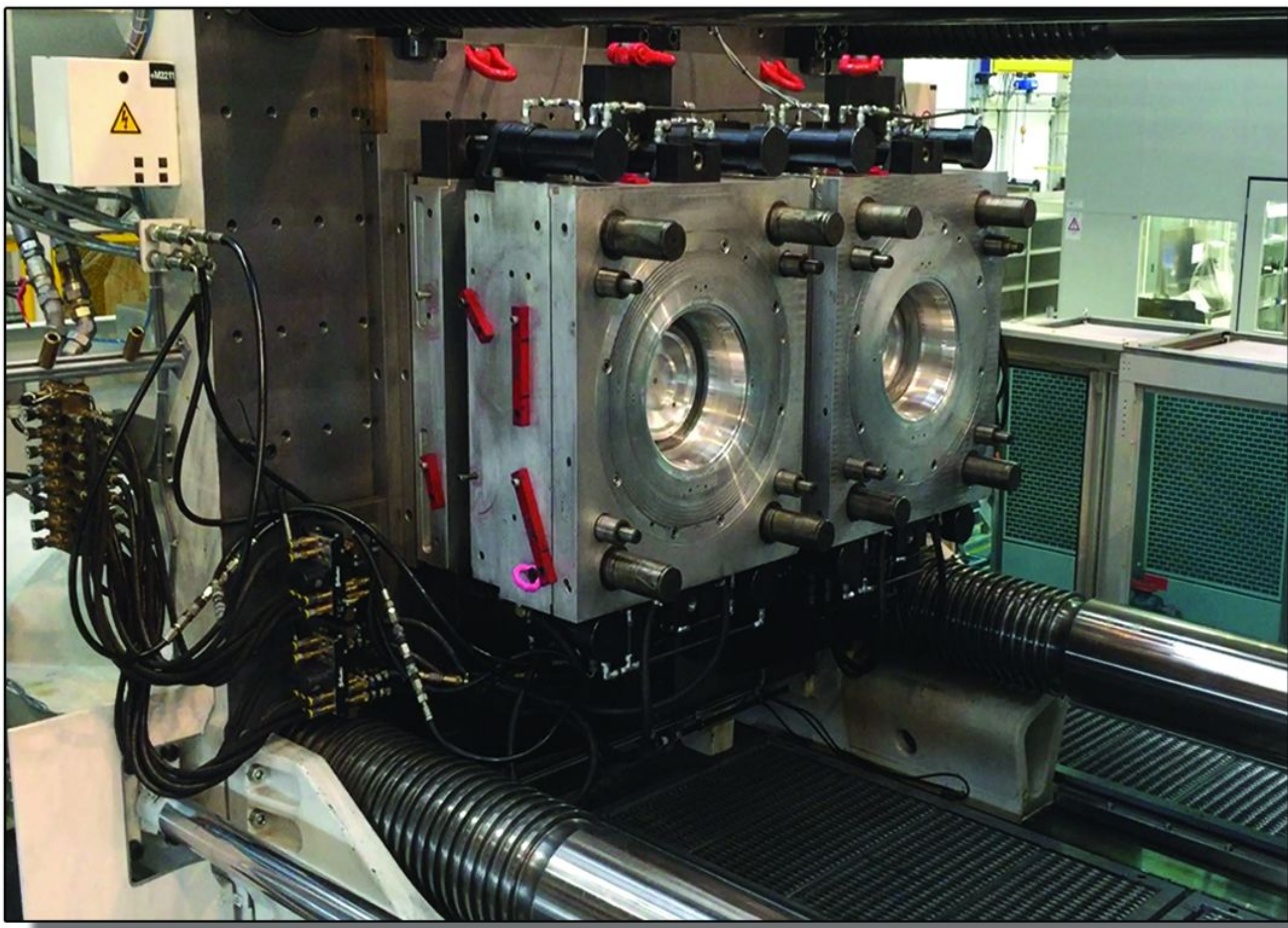
D630 Manhole mold
4 articles interchangeable





DN355/400/500 bend
SDR11/17
HDPE/PP-H
16 articles interchangeable,
no post-machining needed.





DN355/500/450 Flange adapter
SDR11/17
HDPE/PP-H
16 articles interchangeable,
no post-machining needed.



1,500t and 2,500t high volume
injection machine in factory,
competent in most mold
samplings and adjustments.





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EMTECH