

# DCIM

**Right Step into Bio- and Circular Economy**

CDS Series for Injection Molding Machines (300- 40000 kN)



# Yizumi Principle




We believe that all companies in the world, a responsibility for the impact on our environment. Therefore, Yizumi produces its machines with the least possible use of materials to save the precious resources of our earth. Furthermore, Yizumi produces in its factories on the basis of the latest environmental standards and ensures that its suppliers also comply with these standards.

## The Green Technology Line

Yizumi now goes a step further with the green technology line. With this line, we eliminate additional manufacturing and transport steps in the production of plastic parts and make a valuable contribution to the conservation of resources.

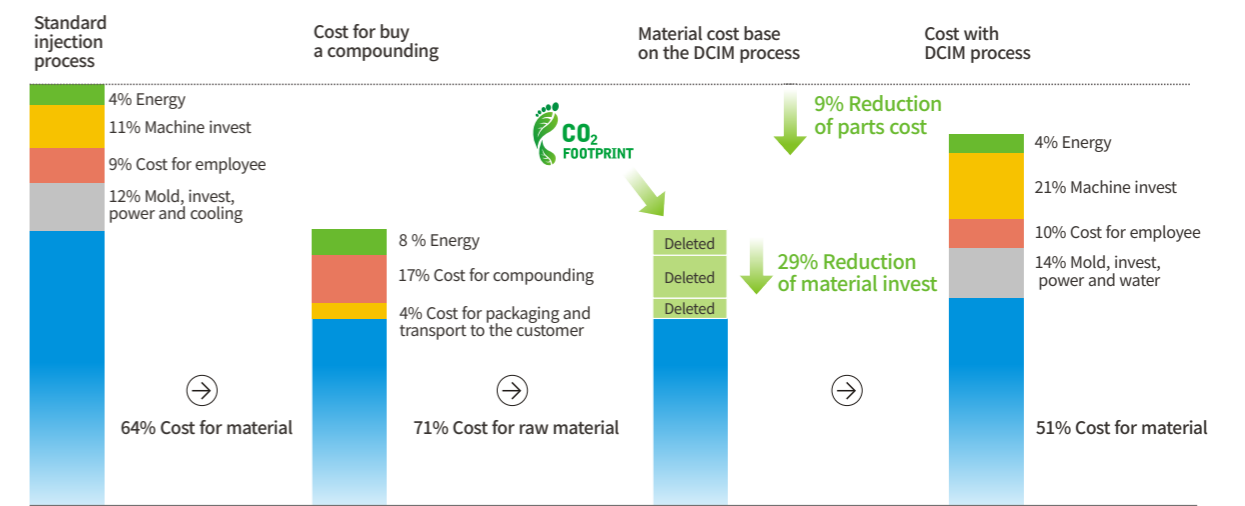
## DCIM Technology

Furthermore the DCIM technology is saving an enormous amount of CO<sub>2</sub> emission by avoiding an additional heating up and cooling down step of the plastic material. The total energy for this procedure is approx. 500Wh per kg, saving 264kg of CO<sub>2</sub> when producing 1 ton of compounding material by using DCIM system from Yizumi.

	CO <sub>2</sub> reduction in the value chain
	Ideal for biopolymers, bio-based and bio-degradable
	Perfect for circular economy and recycling

# Reduction of the Parts Cost

The manufacturing cost for a plastic part are generally split as follows



\* Example based on UN160A5-EU machine with screw 48mm and shot weight 160g cycle time 30sec and material cost for PP 20% talcum with 1.8 EUR/kg ( year 2019)

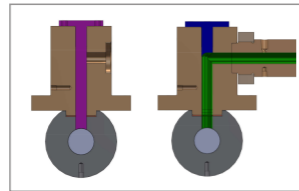
UN500DP with CDS 34 shot weight 500g	14% Reduction of parts cost	14% ↓
UN1000DP with CDS 68 shot weight 1000g	17% Reduction of parts cost	17% ↓
UN2300DP with CDS 102 shot weight 3000g	24% Reduction of parts cost	24% ↓

Yizumi patented system

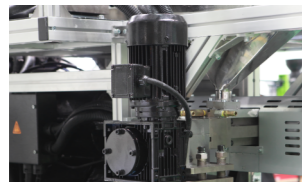
# Machine Overview



Connecting area between injection molding machine and CDS



Closerable section

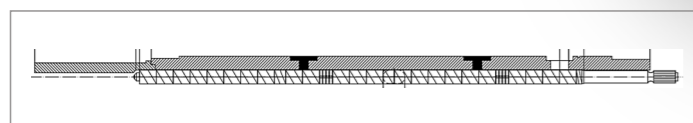


Feeding and dosing system for glassfiber and mineral or powder, included sidefeeder

Integrated controller

Material hopper for work with the injection molding machine without CDS or in combination with the CDS system

Standard injection molding machine



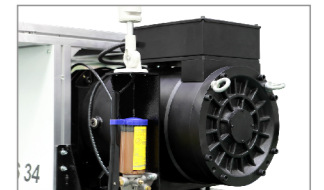
Segment single compounding screw with different feeding areas for the respective materials or additives



Feeding system for plastic granulate

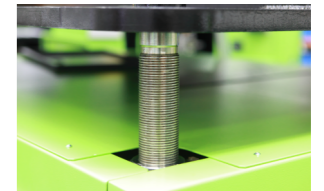


Dosing system for plastic granulate



E-Drive with direct torque motor for the screw

Material stock box



Height adjustment of the platform



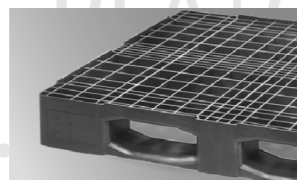
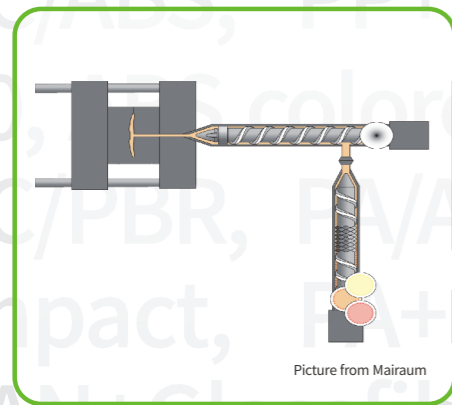
Movable unit

Yizumi patented system

# Direct Compounding Injection Molding

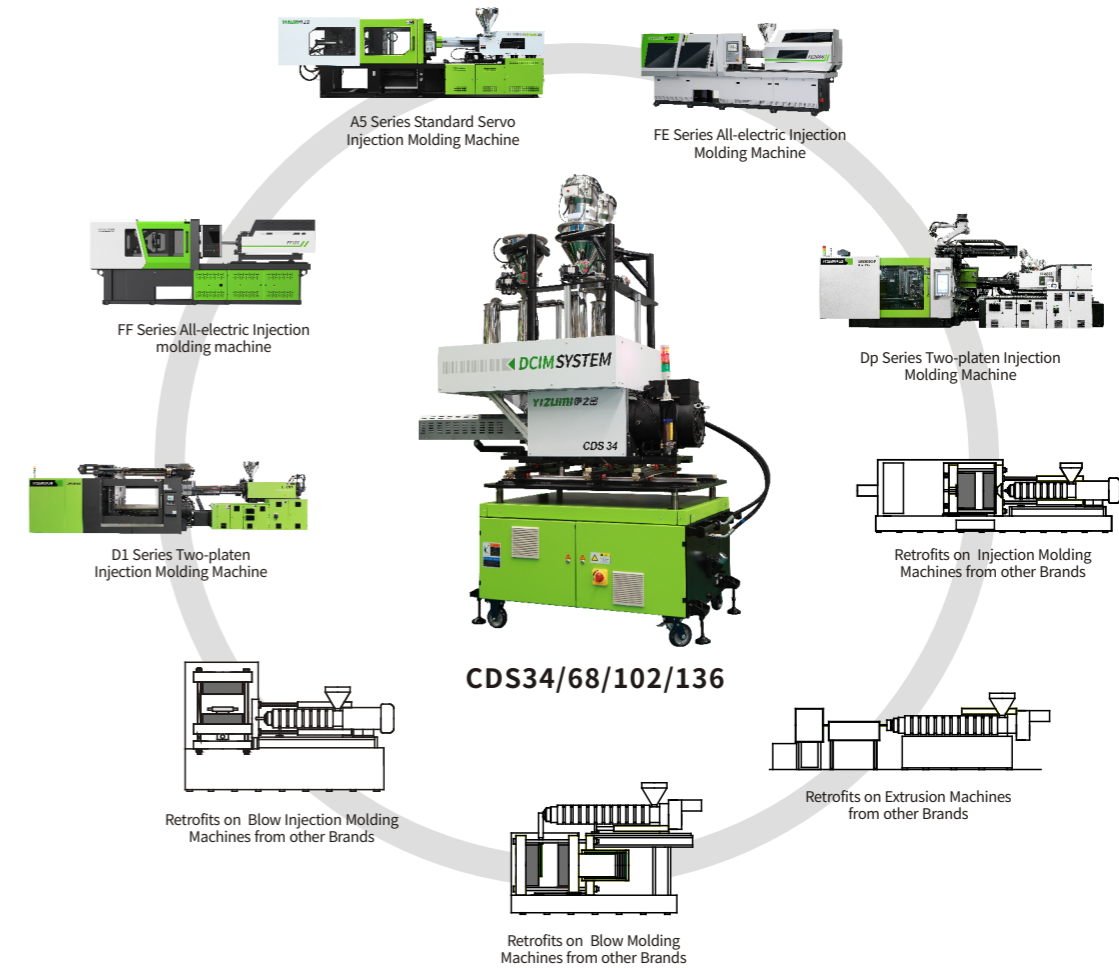
Combination of Compounding and Injection Molding Machine (IMM)

PP+Glassfibers, PA+Glassfibers, PC/ABS, PP+Talc, PP+CaCO<sub>3</sub>, PP VC, S colored, ABS+Glassfibers, PC/PBR, PA/ASA, PA high impact, PA+Mineral, SAN+Glassfibers, PE/POE, PBT V0, PP+BaSO<sub>4</sub>, PC/AA, PLA+CaCO<sub>3</sub>.....and many more..



# Machine Combination

The CDS (Compound Delivery System) can be combined with the injection molding machines of Yizumi or other brands.



## Additional benefits for your production and parts

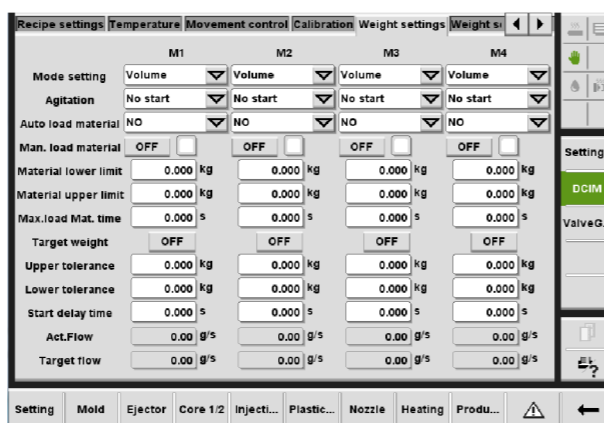
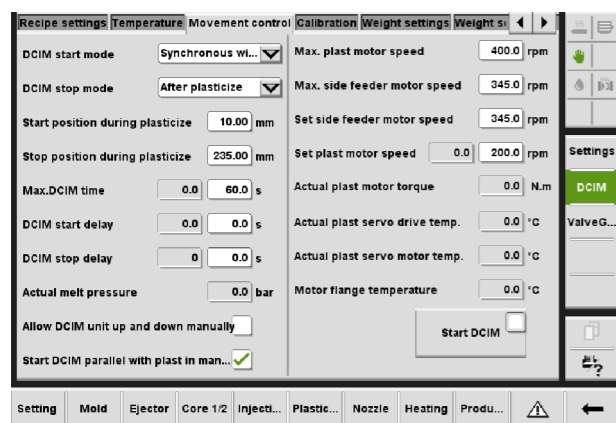
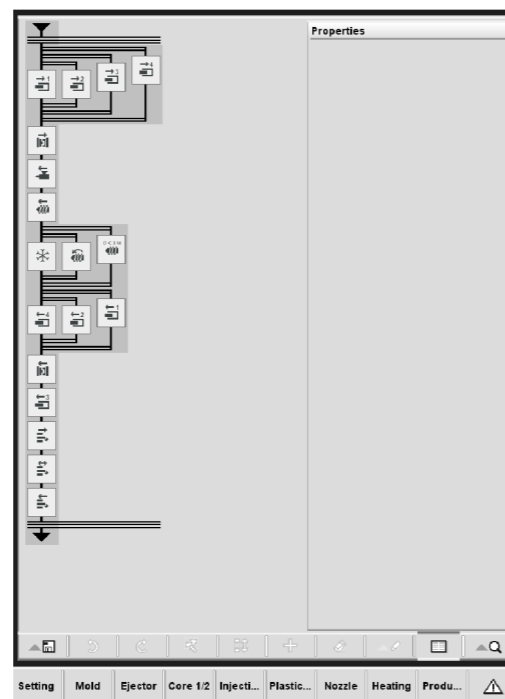
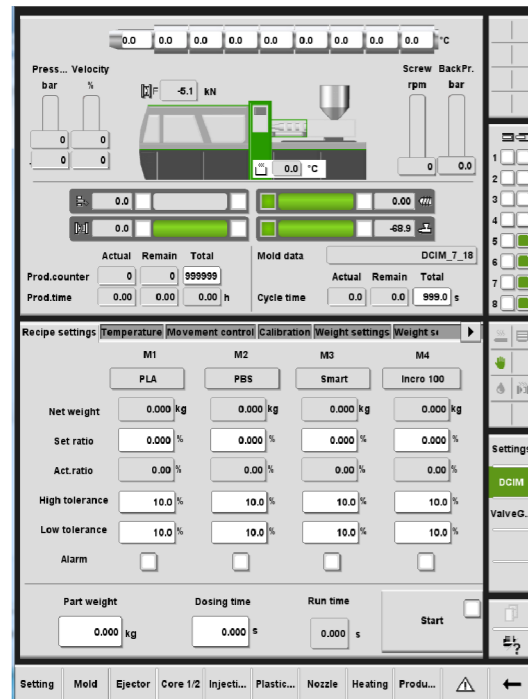
- No drying of the material necessary (additional cost, energy savings and more stable production). ↓
- Up to 30% improvement in plasticizing performance during operation machine combined with a CDS system. ↑
- Processing of recycled material without intermediate steps for the preparation of the material. ♻️
- Reduction of expensive additives like color batch and AA blocker. ↓
- Production of plastic parts with optimized material combinations. ↑
- Flexible production with, without or in combination with the CDS system. 1 ↔ 2
- Flexible production with own formulations via CDS or standard materials over the hopper of the injection molding machine. Backup

# Controller and Smart Programming

Easy programming for your operator, he can use the injection molding machine as usual and the operation of CDS is easy to learn.

Highly integrated DCIM control in a screen control of the injection molding machine

- Recipes from formulation can be easily set, memorized all necessary steps.
- Intuitive and clearly arranged setting.
- Integration of peripheral auxiliaries, can be controlled and monitored on one screen.
- Freely programming of machine action, modifying action sequence online for special process.
- Supporting OPC-UA to facilitate data exchange and industrial 4.0 applications.

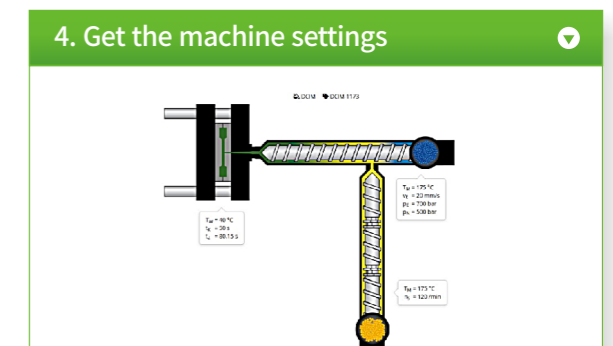
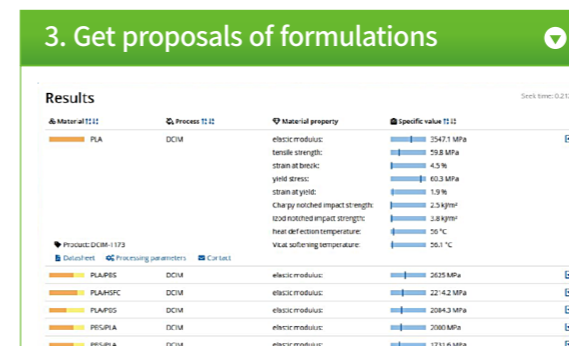
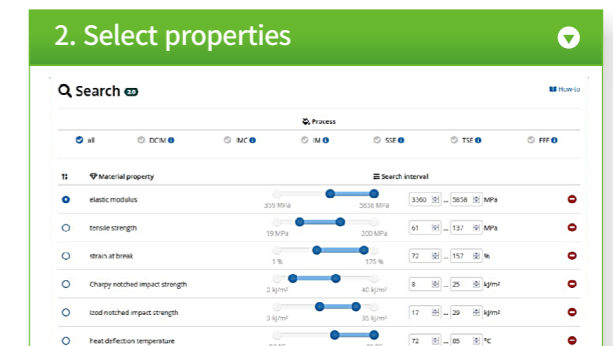
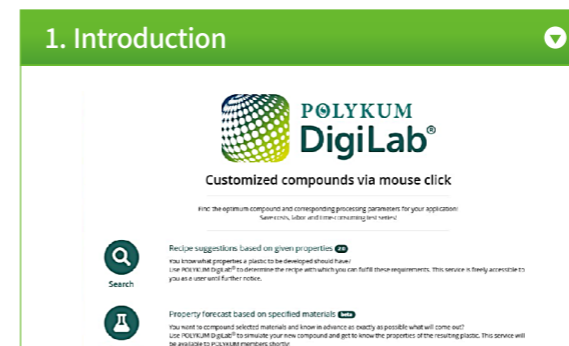


# Material

We care about formulations of your materials! Standard recipes you find in the DigiLab App . (<https://www.polykum-digilab.de>)



App of DigiLab



For customized compounds and training on DCIM use our material studio EXIPNOS



[www.exipnos.de](http://www.exipnos.de)



# CDS Standard Equipment/Option Equipment



Type	Diameter	L/D	* Max. Throughput (KG/H)	Screw speed	Screw tongue Nm	Match to IMM Screw Diameter
CDS34	34	32	20-35	400	800-1000	30-53mm
CDS68	68	32	80-90	350	4000-5000	60-92mm
CDS102	102	32	180-200	250	7000-8000	100-125mm
CDS136	136	32	300-350	200	10000-12000	135-155mm

\*Max. throughput is dependent on the base material and the material mix

## STANDARD

- Compounding-extruder with L/D ratio 32.
- Compounding-screw with segmented elements.
- Moving table in 2 axis.
- Height adjustment for adaptation to the respective injection molding machine.
- CDS system movably mounted on wheels.
- 15.4" multi-touch color screen for real-time visualization of parameter values and graph curves. The Yizumi user interface provides users with free and intuitive programming with no training overhead.
- Electrical interface for communication between the Injection molding machine and the CDS Systems.
- Heated melt adapter for adapting the CDS system to the injection molding machine.
- Energy-saving direct drive of the extrusion screw through a torque drive.
- Ceramic heating tapes for the extruder wired directly into the control cabinet.
- Temperature setting on the extruder possible up to max. 350 °C.
- Operating voltage of the machine is 400/230 V / 50 Hz with neutral conductor.
- 2 units of material feed container column for granules rotatable for easy cleaning.
- 2 units of gravimetric dosing type MSD for granules ,powder and glassfibers.

## OPTION

- The adapter for the melt to the IMM can be tightly closed if operated as a standard IMM.
- Melt pressure and temperature sensor in the area of the melt adapter.
- Side feed station for introducing glass fibers and minerals in the compounder.
- Dust-exhaust with tubing.
- Vacuum-adapter at side-feeder instead of hopper.
- Temperature setting on the extruder possible up to max. 400 °C.
- Compounding unit with enlarged L/D ratio.
- Additional screw-elements.
- Cooling/heating zones.
- Calibration trays for placing in the hopper.
- Easy cleaning device for the dosing-units.
- Extra unit of material feed container column for granules rotatable for easy cleaning.
- 1 unit of vacuum conveyor for granules.
- Single gravimetric dosing unit type MSD.
- Bigger platform for additional dosing units.
- Powder and fiber- loading station.
- Color dosing module, volumetric for color sampling.
- Extrusion head for the production of strands in the small standalone operation with the DCIM system.
- Water bath with heat-exchanger and pump for cooling of Plastic strands.
- Granulator for granulating of plastic strands.

# About Yizumi

Founded in Guangdong, China in 2002, Guangdong Yizumi Precision Machinery Co., Ltd. is a ChiNext-listed company focusing on the fields of polymer molding and metal forming. The company involves in design, R&D, production, sale and service of injection molding machines, die casting machines, rubber injection machines, high-speed packaging systems, robotic automation systems. The company's sales in 2018 exceeded \$291 million.

## Global Operation

Yizumi's production bases are scattered at home and abroad. There are several technical service centers and more than 30 overseas agents, covering more than 60 countries and regions.

