

DESIGNED BY
JAPANESE EXPERTS



Technology Creates the Future
60 Years of Focus, Determined to Continue Innovating

SPEED

HIGH-SPEED SERVO SERIES

ULTRA HIGH SPEED

HIGH PRECISION

FAST RESPONSE

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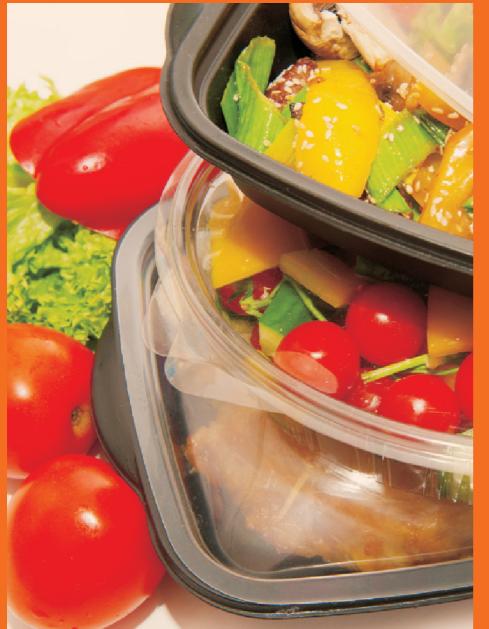
 CHEN HSONG

SPEED

SPEED

SPEED High-Speed Servo Series

Applications



Thin-Walled
packaging

Mobile Phones
and Precision
Electronics

Consumer
Electronics

Medical
Consumables

The SPEED series has been developed with a primary focus on delivering very high injection speeds and very short cycle times, all the while ensuring rock-solid stability and no-compromise precision. It is, literally, the best of all worlds.

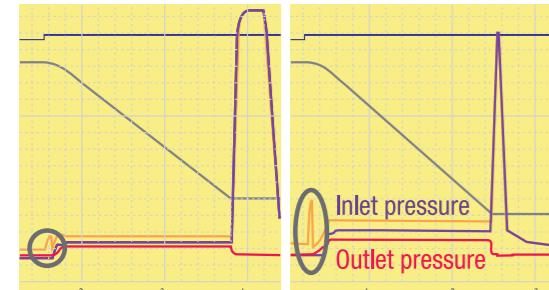
The secret ingredient behind this unbelievable performance is Precision Hydraulics™ technology - a Japanese-based technological revolution that achieves unprecedented precise and accurate motion control at the highest operating speeds. The result is performance, reliability and stability infinitely close to Japanese-standard injection moulding machines, operating at 300-500mm/s injection and as short as a 1.5-second dry cycle.

Key Technologies

Precision Hydraulics™

“Brains over Brawn” – Precision Hydraulics™ is a revolutionary technology developed by senior Japanese engineers over many years of intensive research. It employs the latest in software simulation technology and the most updated control theory to all but eliminate unnecessary pressure drops, yielding a hydraulic circuit that is highly optimised, virtually shock-free, and smooth as silk. A machine equipped with Precision Hydraulics™ technology can easily match the performance of a Japanese-standard injection moulding machine costing double or triple the price.

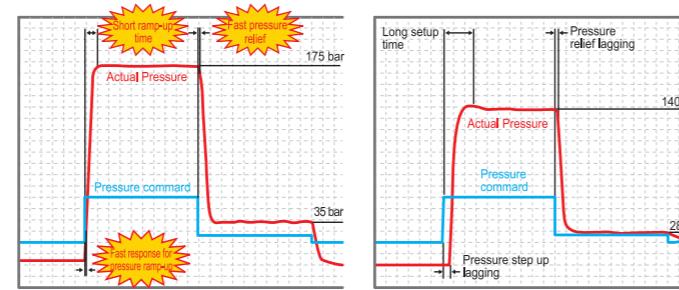
Injection Speed Response



Smooth, stable,
no overshoots,
no fluctuations

Competition 160-ton
Fluctuations, over-
shoots

V/P Switch-Over



Snappy and accurate

Competition 160-ton - slow
response

A new industry benchmark for low-pressure mould protection

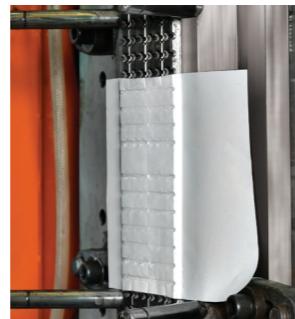
High-precision linear potentiometers are used for the clamping, injection and ejector axes which, when combined with highly-optimised algorithms, enable superior low-pressure mould protection – effective even with obstacles thinner than 0.1mm (or the thickness of a sheet of paper)!



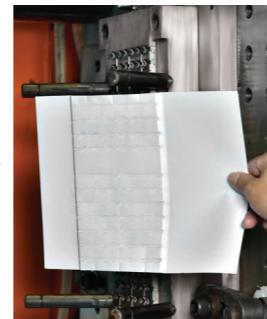
Before mould close,
put in a sheet of
standard A4 paper



Almost closing
detecting paper



Low-pressure mould
protection causes
clamp to open

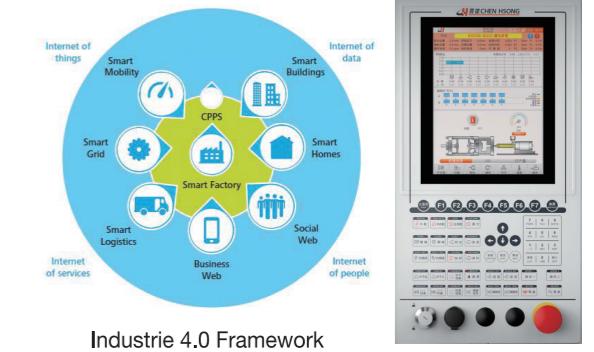


A4 Paper is not even
punctured through!

All-new intelligent controller

Special Features

1. Complies with JIS and IEC testing standards
2. Named-brand high-definition 10" TFT color LED screen
3. Integrated EtherCAT high-speed bus system
4. Integrated closed-loop function
5. Optimize barrel temperature PID algorithms
6. Optimize injection control algorithms
7. Optimize mould open control algorithms
8. Multiple languages
9. Intelligent fault diagnostics
10. Industrie 4.0 interface



The entire hydraulic circuit was simulated in advanced software to highlight unnecessary pressure drops and shocks. These are then systematically eliminated through the drudging work of experienced engineers using top-of-the-line analytical tools. The result is a perfect motion curve tailor-made for the machine.



Advanced Japanese computer controller dynamically monitors minute variances in machine performance and adjusts in real-time for perfect hydraulics control. Perfect smoothness. Perfect accuracy. Perfect repeatability. Every single shot.

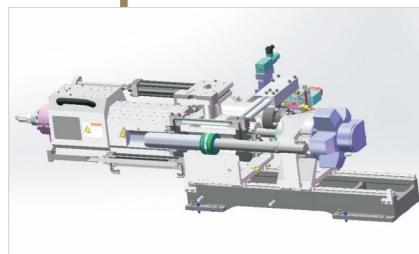
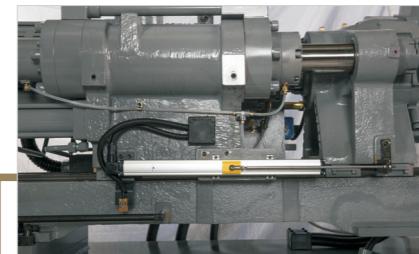
SPEED

Fine-Tuned Performance



Optimised Injection Unit Design *Superior melt quality and plasticising speed*

Standard injection unit is specially optimised for high-speed applications with higher injection speeds and pressure.



Balanced Dual Hydraulic Cylinders And Linear Guide Rails *Low friction mechanism for high precision injection control*

Non-contact potentiometers for the highest accuracy during high-speed injection; Eliminates wear and interferences for ultimate stability



Ultra High Speed, High Precision, Fast Responses *Top-of-the-line high-response servomotor with 2x faster dynamic responses*

Faster responses for higher repeatability, control precision and energy efficiency



* Product images are for reference only and subject to change without notice.

SPEED

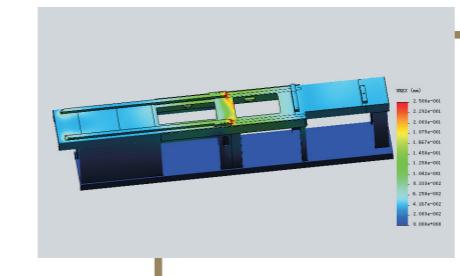
Mechanical Design



Very Thick (And Strong) Platens

Minimal platen and toggle deformations

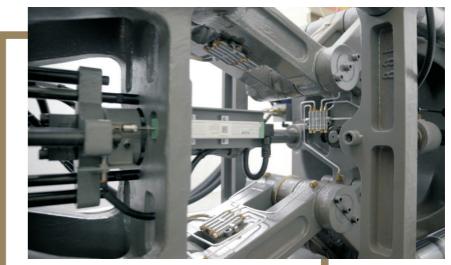
Optimised platen design distributes stresses evenly for higher part quality



Very Strong Machine Base

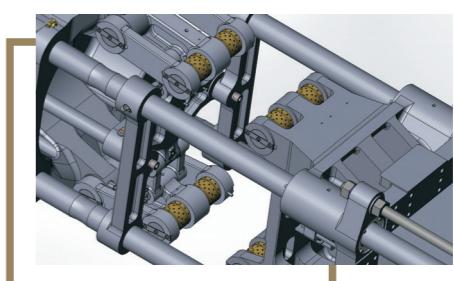
Machine base is rock-solid stable, ensuring the highest yield possible even for difficult products

Designed to match the unique requirements of ultra-high-speed motion curves, the machine base is specially designed to enhance structural strength, rigidity and stability by 50%, thus ensuring the highest part quality.



Perfect Alignment *Even stress distribution helps eliminate rejects*

Stress is channelled through the centre of the moving platen before distributing outwards evenly. Advanced Japanese mechanical design guarantees perfect alignment of the four corners at all moments, effectively eliminating flashes.



Oil-Less Graphite Bushings *Friction-free, oil-free*

Self-lubricating bushings have no need for lubricating oil while providing superior lubrication day in and day out, reducing unnecessary wear. Result is less pollution, less wear, less costs. Everyone wins.