



MILACRON®

S7 LINE

3-Axis Robots

■ S7-45

■ S7-55

■ S7-75



YOUR FREE CHOICE IN BIG ROBOTS

For 700 to 5000 ton
Injection Molding Machines

There is a solution for all your new or existing press equipment needs, for simple unloading or complex applications or for optimum adaption to the most demanding applications.

TECHNOLOGY

S7 Line benefits from the latest generation technologies of new Milacron large capacity robot platform:

- A high level of component reliability due to shared designs and components with high technological value: Milacron Linear Systems (MLS) guides on transverse and vertical axes and powerful servo-motors on all our models.
- Rationalization of basic components and a modular design for adapting the installation (transverse or axial, etc.), with strokes and loads tailored closely to your application needs.
- A modular assembly planned during the design phase for demolding and vertical arm functions which allow for preassembly in our factory and testing by module.
- Robot programming and operation is simple and flexible using Visual, Milacron's native control platform.

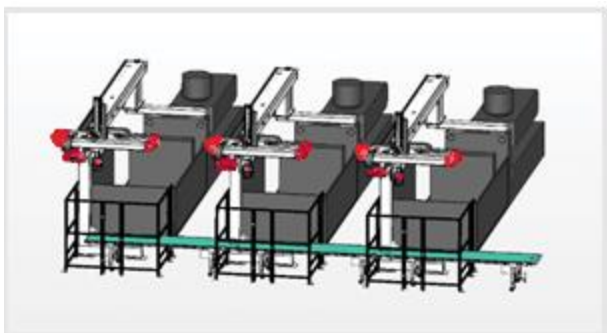
DESIGN AND STRENGTH

In terms of the design, S7 Line robots are stable and fast in order to optimize installation productivity during operation, 24/7.

- A vertical arm with aluminum profiles, provides an excellent mass/rigidity ratio and design optimized for high performance. With no balancing cylinder, due to the intelligent servo control and brake, this design reduces noise, maintenance operations and power consumption (compressed air and electricity).
- S7-45 and S7-55 robots have a closed frame demolding structure made of aluminum profiles for high rigidity and low moving masses. S7-75 has a single-beam, large section demolding structure to ensure stability and a long demolding stroke. For the demolding axis, the prismatic guide represents the optimal cost/rigidity solution.

AXIAL INSTALLATION

The choice of an axial installation on the large IMM optimizes the use of available floor space in your workshop.



- Three IMM's instead of two over the same floor area (50% more IMM on average)
- The flow of parts is directly at the end of the IMM: no need for a conveyor between the IMM's.
- The available space between the IMM's is reserved for operator access and preparing the molds for a quick change of production.

YOU ARE IN THE FAMILIAR WORLD OF MILACRON
WITH ITS UNIVERSAL CONTROL SYSTEM

Visual is Milacron's universal control system, specifically designed for plastic injection molding machines. It simplifies the programming and operation of S7 Line 3-axis

S7 Visual 2 Visual 3 (Optional)



VISUAL 2

It's so easy

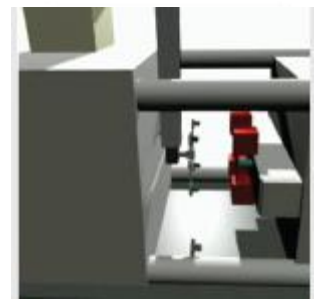
- 3D Display: with the Simple Pick-and-Place Module: create your cycle by answering the questions the system asks you and see the results immediately in 3D on the video.
- Fine-tuning movements in the mold made easy thanks to the joystick.

Make your daily routine easier

- You can consult the full-screen documentation at any time.
- Transfer information from one team to another using the notepad function.
- Thanks to the USB key, operators, setters, programmers and maintenance personnel have direct access to the relevant data.
- Troubleshooting assistance from Milacron's Hotline : with the USB key, download and send the relevant information via internet for remote assistance.

Tried and tested ergonomics

- Task-based navigation means you can directly access the job to be done.
- Eco-Mode: after having programmed your cycle, you just need to press one key to reduce power consumption during the cycle.



VISUAL 3 (OPTIONAL)

The assurance of high performance and simplicity

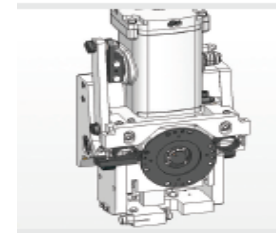
A perfect solution for the most complex automation systems with up to 16 axes.

- The standard Path Tracking function, as standard, can be used to demold undercut parts following curved paths, flame treat parts or cut sprues using simple, economical tooling systems
- Thanks to the fast 20 ms PLC function, you can check intelligent peripheral systems, such as a camera to determine the position of a part, as well as external CNC axes.
- Use the Software studio on your PC to create, edit and manage your programs in a Windows environment. The robot's programs and data can be centralized via your company's IT network (TCP/IP Ethernet cable or Wifi as an option.)
- The Digital vacuum switch is available as standard on Visual 3 to program and save your part grip settings for each mold.





A RANGE OF FAST AND PRECISE LARGE 3-AXIS SERVO ROBOTS



New MLS guides (Milacron Linear System), with guide rails on the beam axis and the vertical arm

Unique Milacron Advantage, the result of 30 years of experience, the MLS guides have an unrivalled service life and reliability, especially for large strokes and heavy loads.

They are extremely sturdy in difficult environments: abrasive dust, oxidizing vapors (PVS) and water vapor. The integrated lubrication system offers the advantage of reduced maintenance (Changing of grease sticks once a year only)

Powerful servomotors

Powerful servomotors allied with clever anti-vibration software ensure maximum acceleration and minimum intervention times.

Y free function

The Y free-function is a Milacron manufacturing standard.

It simplifies the programming of part ejection tracking and can reduce the gripper costs (simplified design).

High-torque pneumatic wrists

The high-torque pneumatic wrists available on the S7 line, R1 (0-90°) as standard and R2 (0-90-180°) as an option, are suited to heavy loads and provide considerable operational flexibility.

The compact, integral design makes mold access easier.

An R1 mechanical lock ensures the EOAT unit is held vertical on the mold whatever the load and speed.

Exclusive elastic mount of gripper (option)

The entire EOAT unit is mounted on a linear axis, parallel to the injection axis.

A cylinder ensures the elastic pressure for the unit and a sensor detects any depressions to stop the robot.

This mechanical device is used to protect the EOAT and the mold during part grip settings and to damp the contact between the EOAT and the part when there are slight variations (a few mm) on the ejection or mold opening stroke.

MULTIPLE CONFIGURATIONS

In standard configuration, the modular design can be used for transverse or axial installations. Long Vertical (LV), Long Demolding (LD) and Heavy Load (HL) versions allow for adaptation to all installations and meet the key requirements of your project without unnecessary over-specification. Dual-arm or dual-mobile versions are also available for stack mold applications.

Availability 2016

	S7-45	S7-55	S7-75
Mold clamping force - Indication (metric Tons)	700-1300	1200-2500	2300-5000
Mold clamping force - Indication (US tons)	772-1433	1323-2756	2535-5512
Horizontal stroke (Can be adapted by 500 mm steps) (mm)	3000-10000	3500-10000	4000-12000
Maximum instantaneous speed (m/s)	3	2,5	2
Demold stroke - Transverse layout (mm)	1100 - 1300 (LD)	1500 - 1700 (LD)	2000
Maximum instantaneous speed (m/s)	2,5	2	1,8
Vertical telescopic arm	✓	✓	
Vertical telescopic compact arm			✓
Vertical stroke (mm)	2200 - 2500 (LV)	2500 - 3000 (LV)	3600
Maximum instantaneous speed (m/s)	3	3	3
Maximum load (parts + EOAT) (kg)	30 - 40 (HL)	40 - 60 (HL)	75
R1 pneumatic rotation (0-90°)	✓	✓	✓
Part grip - Vacuum and/or pressure circuit (more as option)	1	1	1
Floor-standing control cabinet	✓	✓	✓
VISUAL 2 control system	✓	✓	✓

OPTIONS

Vertical telescopic compact arm	✓	✓	
Vertical stroke (mm)	2200	2500	
Maximum instantaneous speed (m/s)	3	3	
Maximum load (parts + EOAT) (kg)	30 - 40 (HL)	40 - 60 (HL)	
R2 pneumatic rotation (0-90°-180°)	✓	✓	✓
Elastic mount of gripper	✓	✓	✓
VISUAL 3 control system	✓	✓	✓

LV: Long vertical Version
LD: Long demolding Version
HL: Heavy Load version