

Example of Liquid Silicone Rubber Molding System Suggested by NISSEI

CATALOG 1408

Taking foaming measure one step ahead

NISSEI Pre-Comp mixing device has a capability to defoam LSR, which is difficult to achieve with an injection molding machine alone. This device also serves a variety of purposes in making LSR products, such as Pre Comp (mixing) and coloring.

Defoaming

Pre Comp

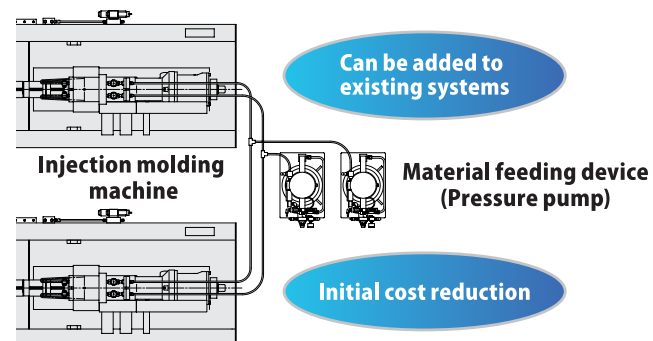
Coloring



▲NISSEI Pre-Comp mixing device

Multifunctional and high profit with low investment

A set of material feeding devices (pressure pumps) can control multiple metering devices. It can bring initial installation cost down as well as being able to be added to existing systems.



A set of material feeding devices (pressure pumps) can control multiple metering devices, permitting cost reduction.

Increase profitability!

Liquid Silicone Rubber (LSR) Injection Molding Machine



Main equipment list

- | | |
|---|--|
| 1 Molding machine cooling circuit | 12 Material feeding device (pressure pump) |
| 2 Water jacket | 13 Chiller (cooling device)* |
| 3 Mold temperature controller (display) | 14 Vacuum pump* |
| 4 Shut off nozzle (RV) | 15 LSR metering device (2-liquid)* |
| 5 Heat shield | 16 Liquid B permutation |
| 6 Vacuum circuit (vacuum drawing) | 17 Material hose |
| 7 Machine specification chart | 18 Anti-freeze measures |
| 8 Material permutation | 19 Material feeding port temperature control circuit |
| 9 Foaming stop circuit | |
| 10 Cooling time display | |
| 11 Material shut off valve (~12E) | |

* These auxiliary equipments are only supported on the injection molding machine side.

Metering device specifications

Injection type	Metering device volume
2A, 2E, 2V, 2VE	20cc
5A, 5E, 5V, 5VE	50cc
9A, 9E, 9V, 9VE	90cc
12A, 12E, 12V, 12VE	120cc

Pressure pump specifications

Pressure pump type	Output volume
1kg	6cc/Cycle
4kg	6cc/Cycle
5kg	6cc/Cycle
18L pail can	30cc/Cycle
200L drum	100cc/Cycle

About machine types

NISSEI LSR injection molding machines are built from general-purpose injection molding machines. It also can be made for a variety of purposes, such as 2-color/dissimilar material molding, insert molding, and other special applications.



▲Electric type 2-color/dissimilar material injection molding machine **DCE series**

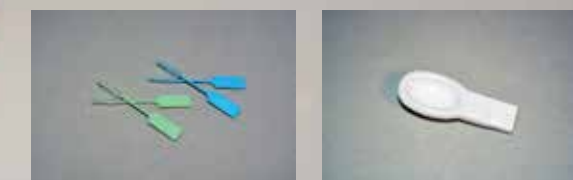
Vertical injection molding machine for LSR **TNS150R-12VEN**

*Cannot be installed on some machines types due to structural reasons.

LSR products are all around us.



LSR (Liquid Silicone Rubber) possesses excellent heat resistance, cold resistance, chemical resistance, and elasticity. It is widely used in a variety of fields, such as medical devices, household goods, electronic components, automotive parts as well as waterproofing products. NISSEI proposes new technological ideas through their abundant experience in liquid silicone rubber technologies.



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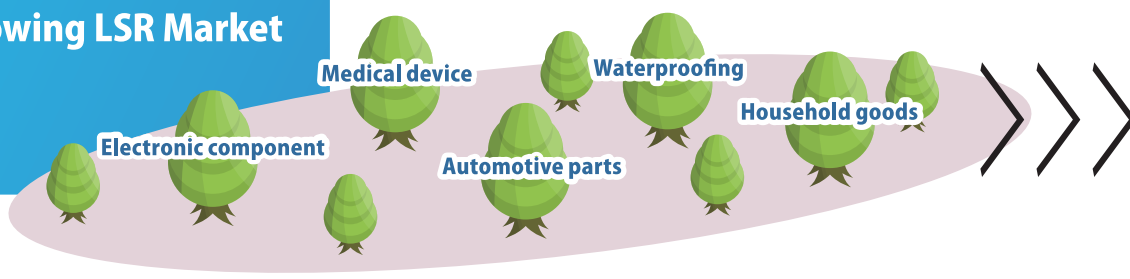
The Next-Generation LSR Molding Has Arrived!

Liquid Silicone Rubber (LSR) is expected to be widely used in many industries, such as water-tight parts that are adhesive molded with dissimilar material, transparent products that utilize its excellent weather resistance, and medical & household products that require higher material safety.

Not just molding machines, but also providing total system support for molds and peripherals

NISSEI has been accumulating abundant technological expertise and experience, including those for peripherals, since they began developing liquid materials. As demand for higher precision and performance LSR parts increases, higher quality and productivity will be required for molding LSR. NISSEI offers injection molding machines as well as proposes complete systems, which include molds and peripherals.

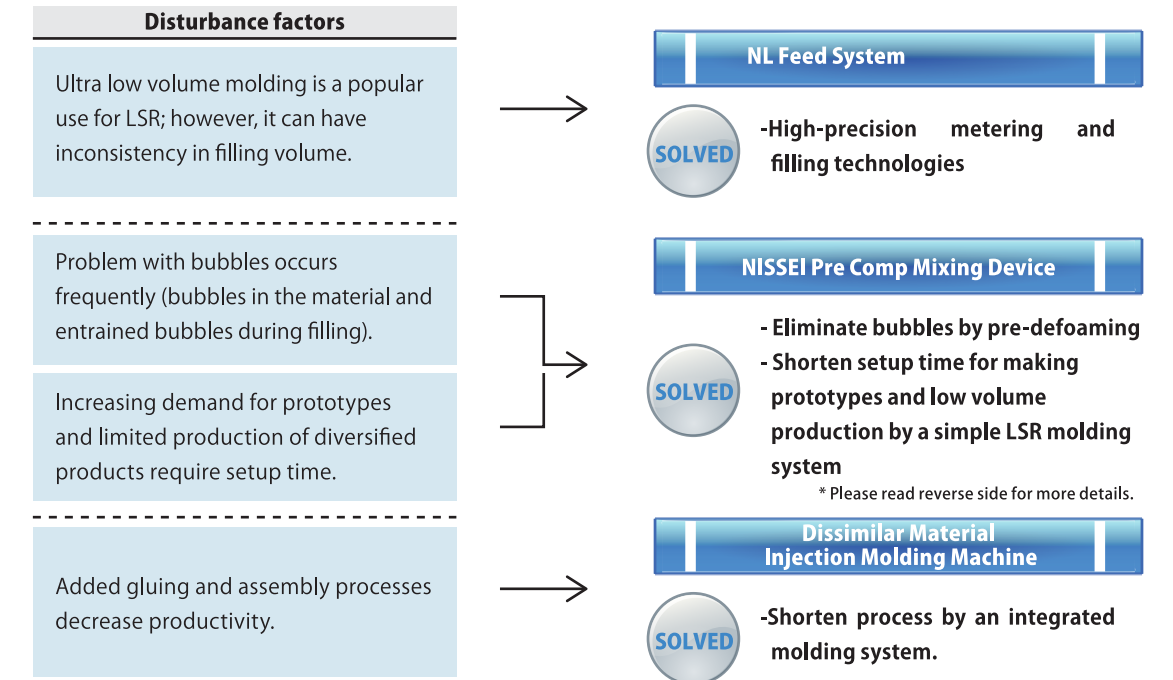
Growing LSR Market



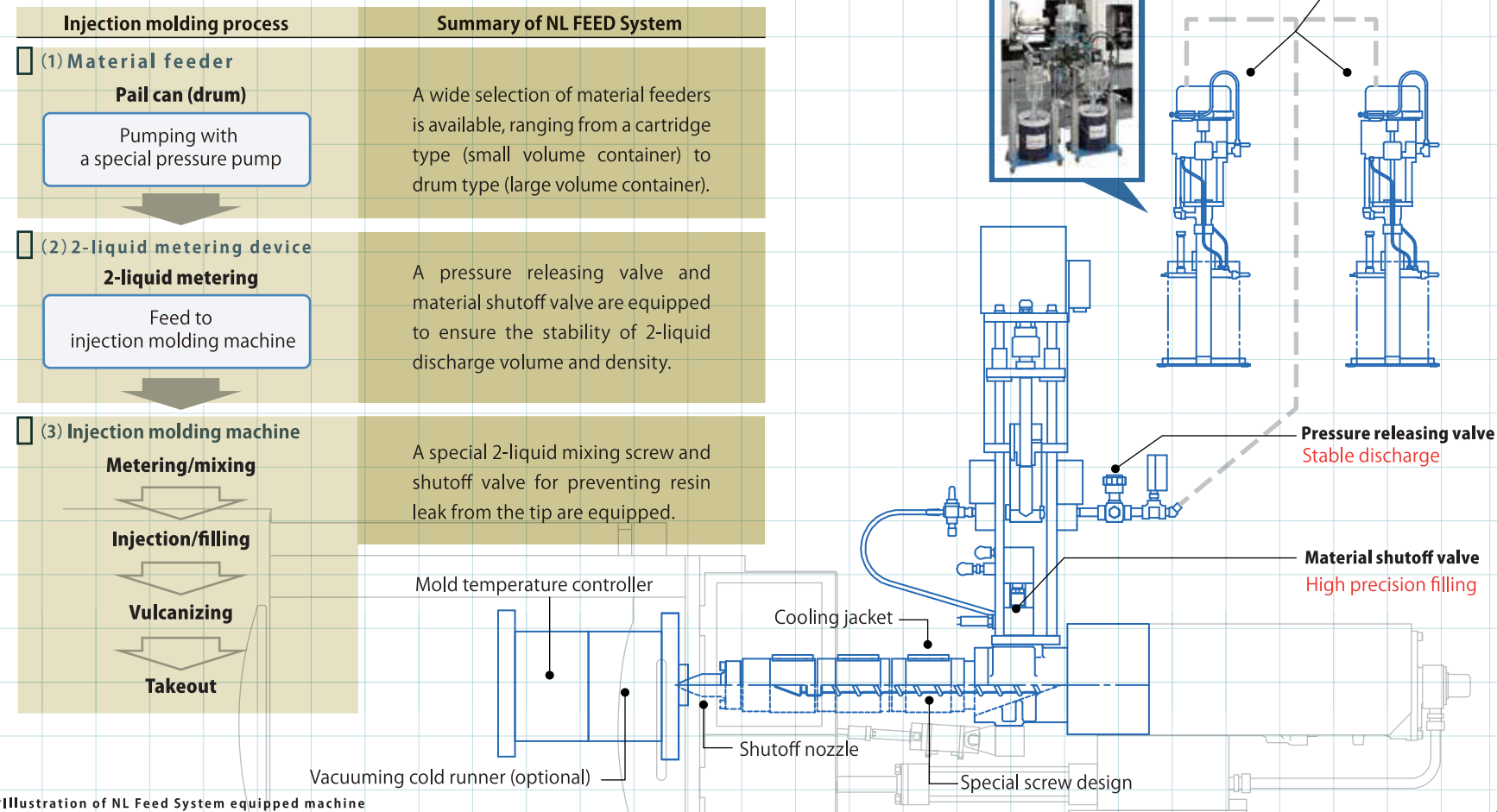
NISSEI's LSR molding Technologies

New suggestions for improving productivity for liquid silicone rubber (LSR) molding

NISSEI LSR molding technology can eliminate disturbance factors for improving productivity.



New LSR Feeding System NL Feed System



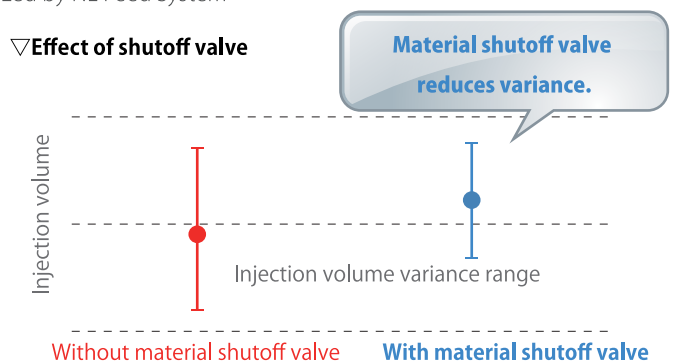
Effect of NL Feed System

High precision metering and filling are materialized by NL Feed System

High precision metering technology by a material shutoff valve

Reducing inconsistency of injection volume and achieving stable operation have been materialized by placing a material shutoff valve on the material feeding port.

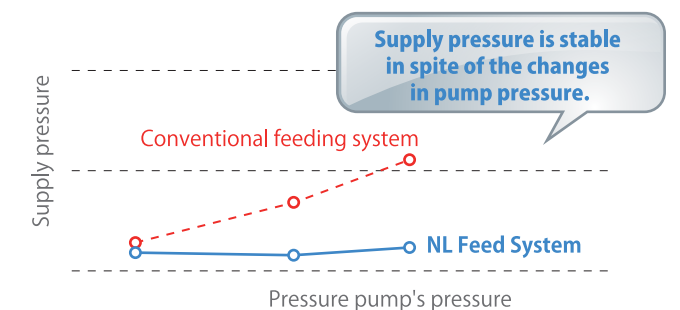
Effect of shutoff valve



High precision filling technology by a pressure releasing valve

Stable material feed that is not influenced by changes in supply pressure of the material feeder (pressure pump) has been materialized by placing a pressure release valve on the 2-liquid metering device.

Effect of pressure release valve



It suppresses variance in injection volume and significantly improves metering precision.

Non-defective rate remarkably improved!