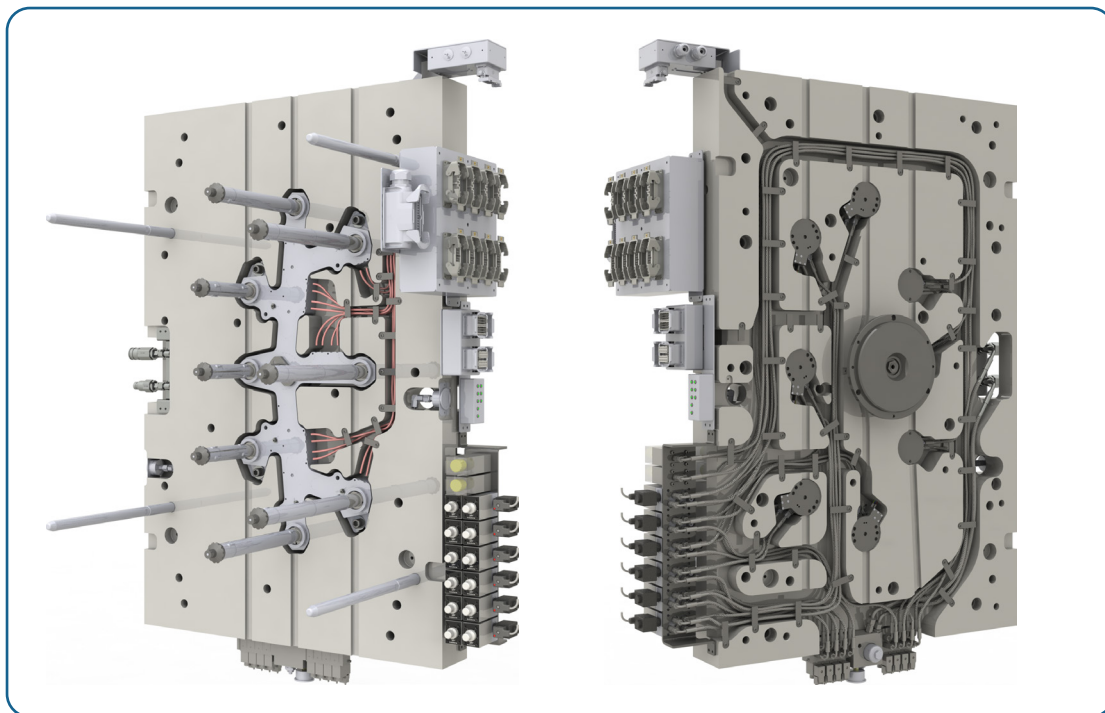


Hot half solution for plug & play and sequential hot runner systems.
Modulflow is a self-contained third part of the mold which includes the mechanical, thermal and hydraulic / pneumatic components.

PRODUCT HIGHLIGHTS

- ✔ **Compact thickness** : 105 mm to 150 mm (4.134" to 5.905") with clamping plate included and **maximum mold support**
- ✔ No cooling required on hot half plates
- ✔ Protected and separated electric and hydraulic components
- ✔ Nozzle tip, valve pin and bushing indexed (will always be in accurate position)
- ✔ High performance tip technology for aesthetical or glass fiber reinforced parts
- ✔ Available in hydraulic 100 bar, 50 bar and pneumatic
- ✔ Easy assembly and maintenance including guide pins
- ✔ Cylinders are in-line with nozzles



OPTION

Many standard solutions have been developed to suit all injection situations:

- | | |
|---|--|
| <ul style="list-style-type: none"> - 2k molds - Flow Control - Flow Driver | <ul style="list-style-type: none"> - Lateral injection - Fast color change - Increase L/Z ratio |
|---|--|

Designed to provide high performance injection in a compact environment.
MODULFLOW is available in 2 sizes: Class 1 & Class 2.

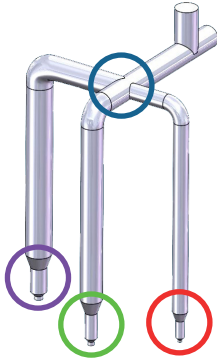
CLASS 1

NOZZLE A:

Ø 22 & 24 mm
 Needle Ø 8 mm
 Gate Ø 8 mm

NOZZLE B:

Ø 16, 18, 21 mm
 Needle Ø 6 mm
 Gate Ø 4, 5, 6 mm



MANIFOLD:

Ø 8, 10, 12, 14, 16,
 18, 20, 22 mm

NOZZLE C:

Ø 10, 12, 14 mm
 Needle Ø 5,5 mm
 Gate Ø 2, 3, 4 mm

CLASS 2

MANIFOLD:

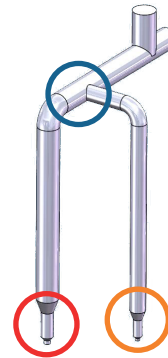
Ø 8, 10, 12, 14 mm

NOZZLE C:

Ø 8, 10, 12, 14 mm
 Needle Ø 5,5 mm
 Gate Ø 2, 3, 4 mm

NOZZLE D:

Ø 8, 10 mm
 Needle Ø 5,5 mm
 Gate Ø 1.2, 2 mm



CLASS 1

MINIMUM PITCH DISTANCE (MM)

Hydraulic 100 bar = 100
 Hydraulic 50 bar = 110
 Pneumatic 7 bar = 120

THICKNESS (MM)

140 hydraulic
 (150 with FlowDriver)
 140 pneumatic

MONOZONE HEATER CUTOUT Ø (MM)

Nozzle A = 51
 Nozzle B = 47
 Nozzle C = 36

MAXIMUM ANGLE (°)

Easytip = 20
 Techtip = 10

TIP CUTOUT HEIGHT (MM)

Nozzle A = 20
 Nozzle B Easytip = 20
 Nozzle B Techtip = 12
 Nozzle C Easytip = 14
 Nozzle C Techtip = 8

MULTIZONE HEATER CUTOUT Ø (MM)

Nozzle A = 69
 Nozzle B = 57
 Nozzle C = 47

TIP Ø (MM)

Nozzle A = 28
 Nozzle B = 22
 Nozzle C = 15

CLASS 2

MINIMUM PITCH DISTANCE (MM)

Hydraulic 100 bar = 75
 Hydraulic 50 bar = 100
 Pneumatic 7 bar = 85

THICKNESS (MM)

105 hydraulic 100 bar
 120 hydraulic 50 bar
 123 pneumatic

MONOZONE HEATER CUTOUT Ø (MM)

Nozzle C = 36
 Nozzle D (Step1) = 25
 Nozzle D (Step2) = 29

MAXIMUM ANGLE (°)

Easytip = 20
 Techtip = 10

TIP CUTOUT HEIGHT (MM)

Nozzle C Easytip = 14
 Nozzle C Techtip = 8
 Nozzle D Easytip = 9,85
 Nozzle D Techtip = 5,85

MULTIZONE HEATER CUTOUT Ø (MM)

Nozzle C = 47
 Nozzle D (Step1) = 28
 Nozzle D (Step2) = 32

TIP Ø (MM)

Nozzle C = 15
 Nozzle D = 11

Cabletrunk solution for sequential hot runner systems.

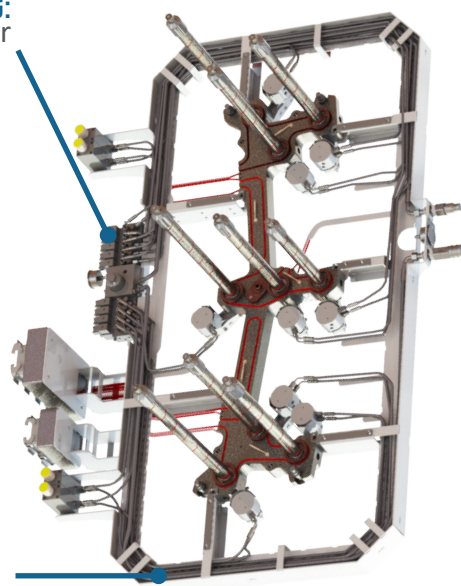
Optimax is a prewired, prepiped system which includes the mechanical, thermal and hydraulic / pneumatic components.

PRODUCT HIGHLIGHTS

- ✔ Cylinders are offset with nozzles : no cooling required
- ✔ Maximum mold support (outside mold cavity cable trunk design)
- ✔ Nozzle tip, valve pin and bushing indexed (will always be in accurate position)
- ✔ 100 bar, 50 bar and pneumatic
- ✔ Easy assembly and maintenance with rigid cabletrunk + columns option
- ✔ High performance tip technology for aesthetical or glass fiber reinforced parts

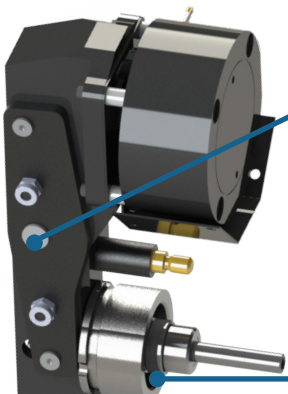
HYDRAULIC ELECTROVALVE INCLUDING:
oil filter, led, pressure regulator, manometer

COMPACT THICKNESS : 125 MM (4.921")



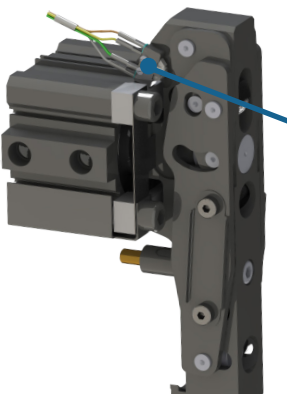
1 000 000 cycles warranty on mechanism

OPTIMAX



New ceramic, no wear axis
1 000 000 cycles warranty

Colorex plug implementation possible / Needle guide designed for technical materials / Improved sealed needle guide for PP



Position sensor

RHEOLOGY

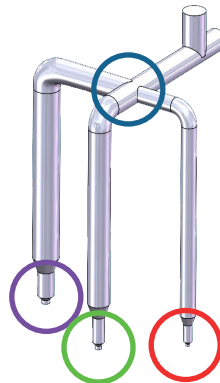
Standard diameters to suit all injection needs.

NOZZLE A:

Ø 22 & 24 mm
Needle Ø 8 mm
Gate Ø 8 mm

NOZZLE B:

Ø 16, 18, 21 mm
Needle Ø 6 mm
Gate Ø 4, 5, 6 mm



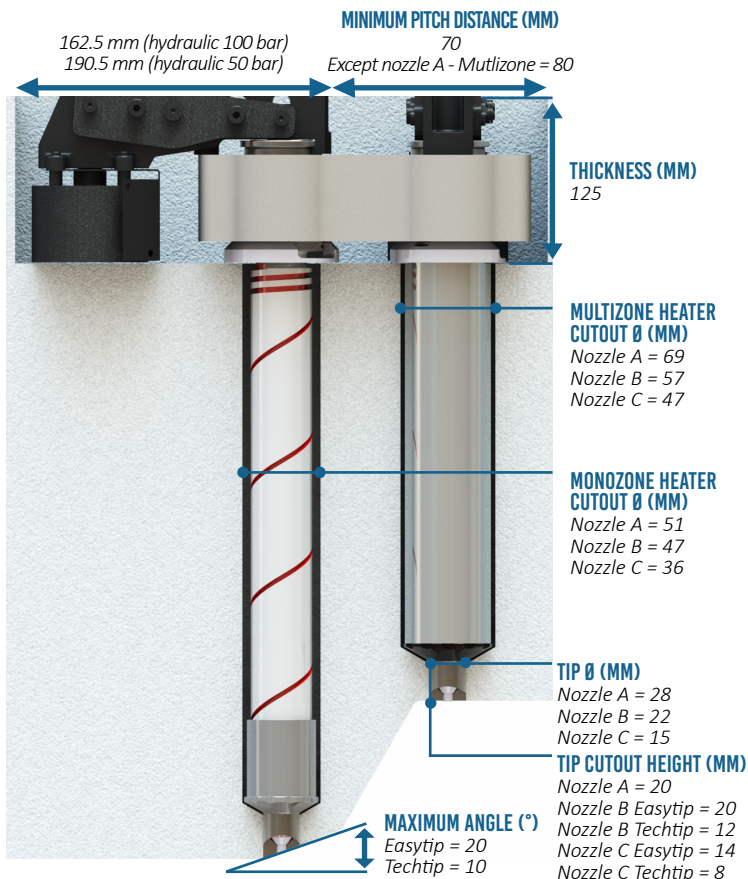
MANIFOLD:

Ø 8, 10, 12, 14, 16,
18, 20, 22 mm

NOZZLE C:

Ø 10, 12, 14 mm
Needle Ø 5,5 mm
Gate Ø 2, 3, 4 mm

COMPACT DESIGN



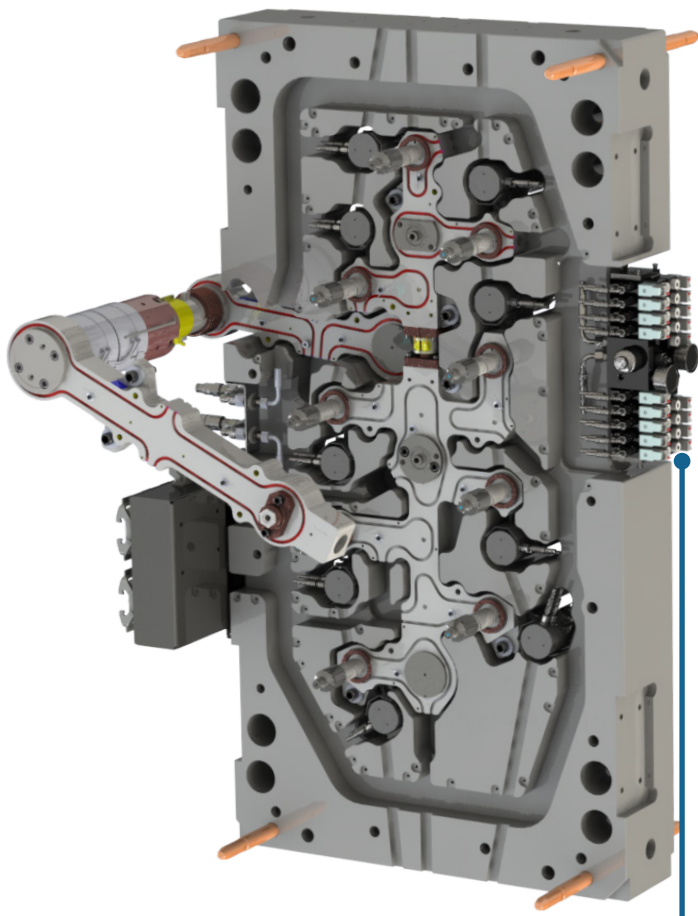
Many standard solutions have been developed to suit all injection situations:

- 2k molds
- Fast color change
- Increase L/Z ratio
- Flow Control, Flow Driver
- Lateral injection

A compact and coolant free self contained middle part of the mold which includes the mechanical, thermal, hydraulic components and an innovated automatic mechanical transfer nozzle for stack molds.

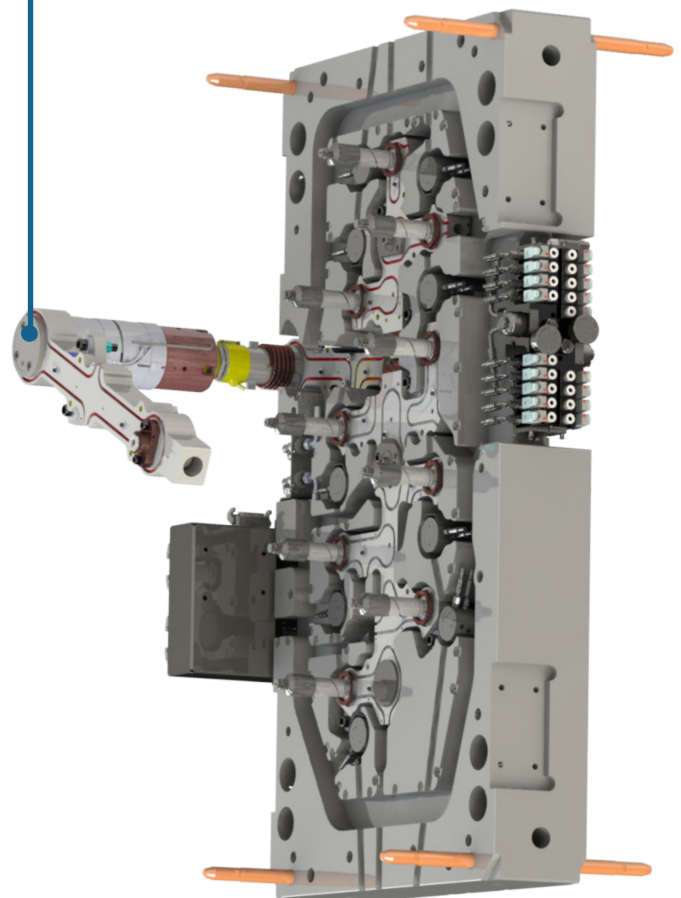
PRODUCT HIGHLIGHTS

- ✔ **Very compact middle plate thickness: 132 to 210mm (5.196" to 8.267")**
- ✔ Cylinders are offset with nozzles : no cooling required
- ✔ Automatic mechanical transfer nozzle without waste: only requires clamp force, very easy to use, reliable and leak proof
- ✔ Transfer nozzle position is designed to suit your application: in the center or at the bottom of the mold
- ✔ Available in shifted nozzles version (one manifold) and opposite nozzles version (two manifolds)
- ✔ Nozzle tip, valve pin and bushing indexed (will always be in accurate position)
- ✔ Easy assembly and maintenance including guide pins
- ✔ Maximum mold support (no cable trunk)

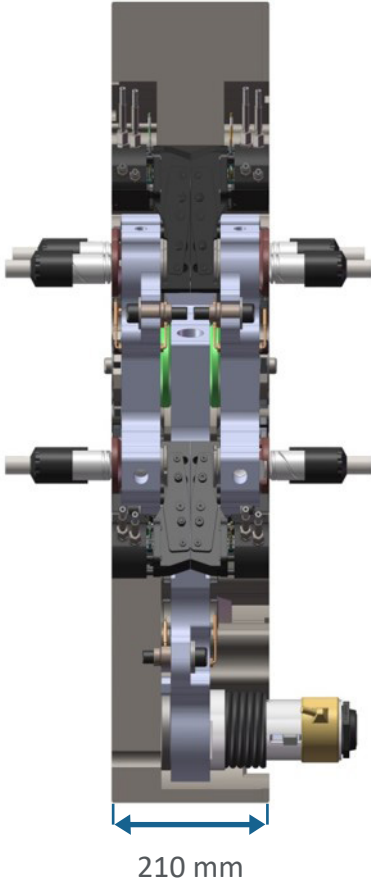


HYDRAULIC ELECTROVALVE INCLUDING:
oil filter, led, pressure regulator, manometer

AUTOMATIC TRANSFER NOZZLE



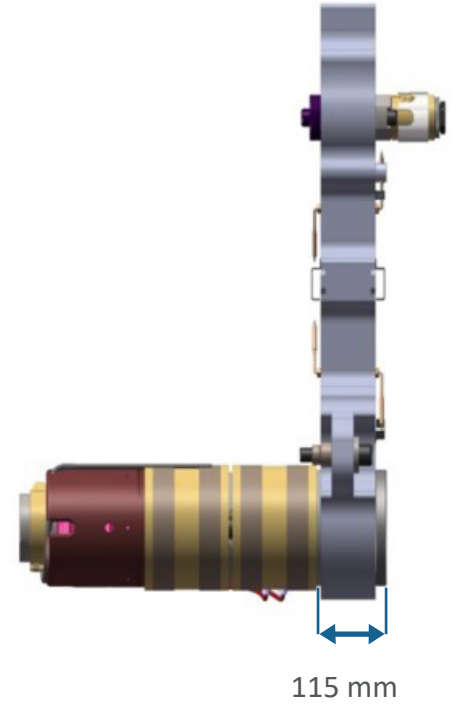
OPPOSITE NOZZLES
Two manifolds version



SHIFTED NOZZLES
One manifold version



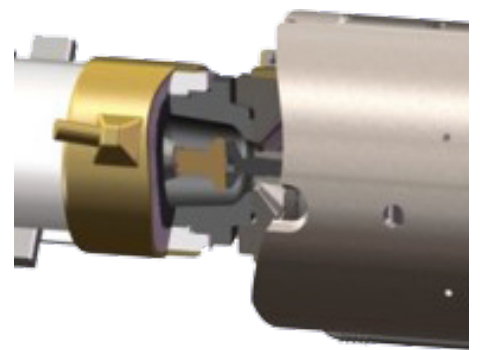
FIX PART
on the mold



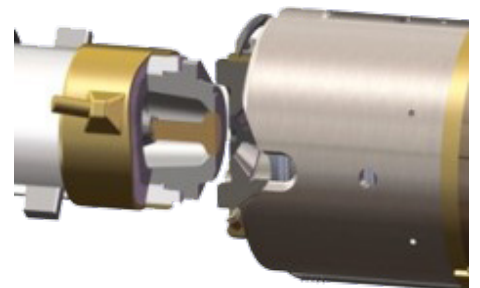
AUTOMATIC MECHANICAL
transfer nozzle without waste



MOLD CLOSED POSITION:
open automatically



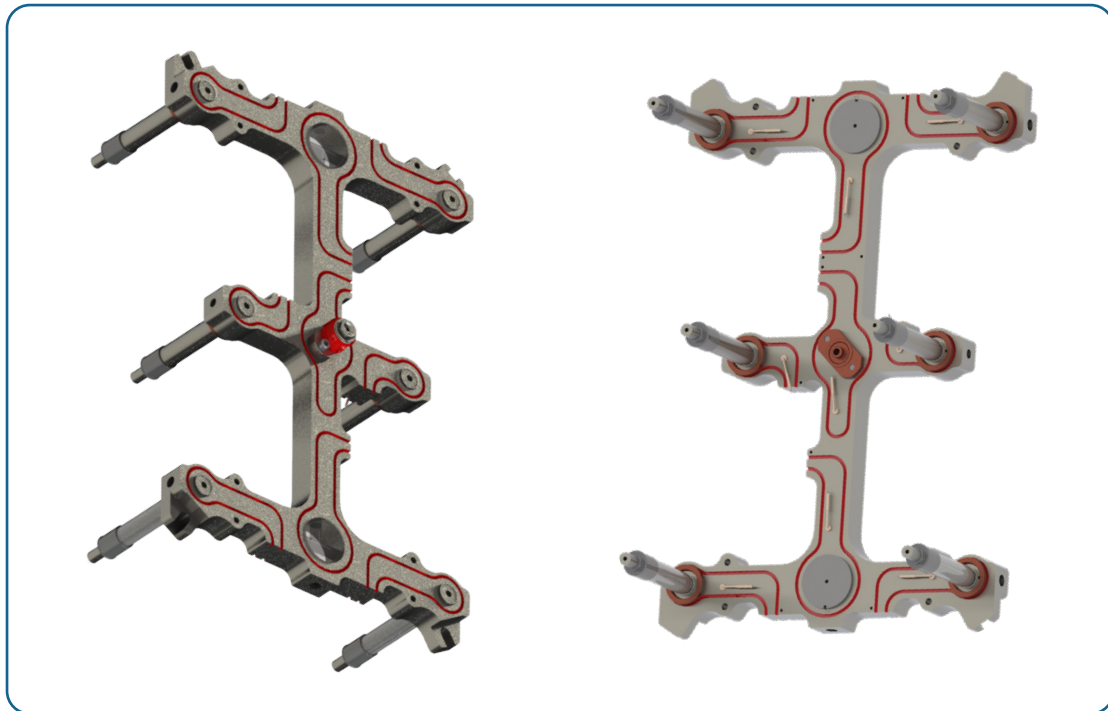
MOLD OPEN POSITION:
closed automatically



Thermal gate hot runner systems.

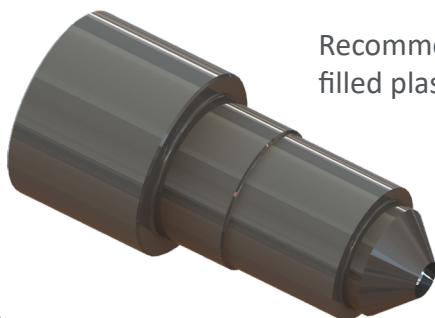
PRODUCT HIGHLIGHTS

- ✔ **Compact thickness: 70 mm (class 1)**
- ✔ Nozzle tip and nozzle position indexed (will always be in an accurate position)
- ✔ Available with or without cabletrunk
- ✔ High performance tip technology for aesthetical or glass fiber reinforced parts:
 - ✔ Techtip for all materials
 - ✔ Pinpoint or freeflow



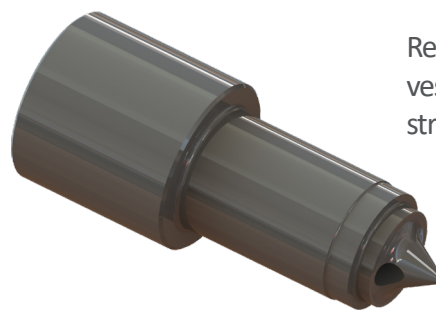
CANALFLOW

FREE FLOW:



Recommended for glass fiber filled plastics

PIN POINT:



Recommended for high vestige quality and gate string prevention

RHEOLOGY

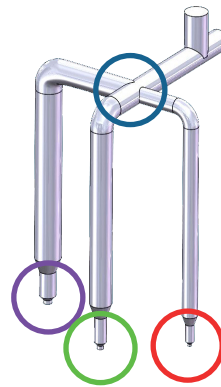
Standard diameters to suit all injection needs.

NOZZLE A:

Not available

NOZZLE B:

Ø 16, 18, 20 mm
Gate Ø 3, 4, 5 mm



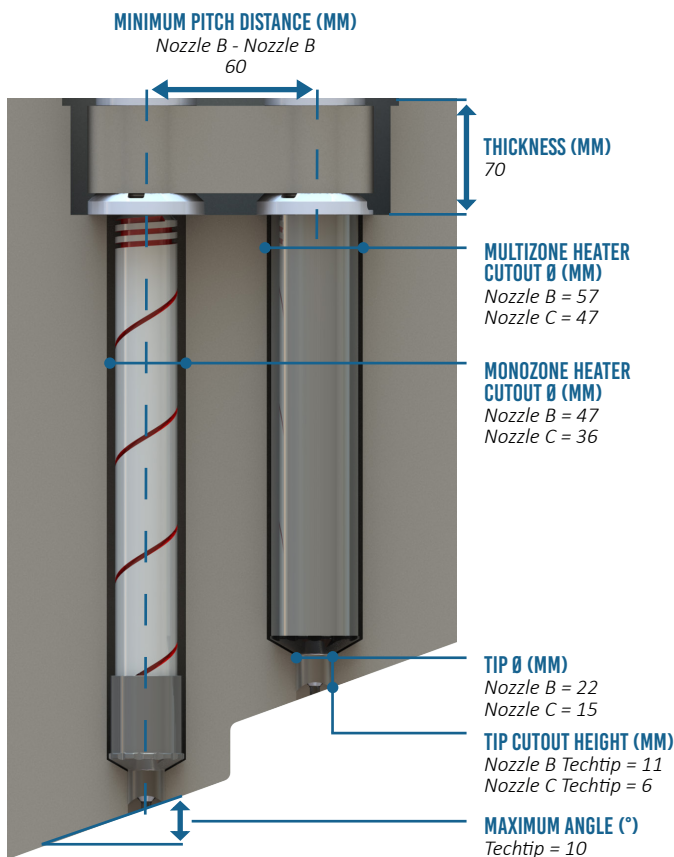
MANIFOLD:

Ø 10, 12, 14, 16,
18, 20 mm

NOZZLE C:

Ø 10, 12, 14 mm
Gate Ø 2, 3, 4 mm

COMPACT DESIGN



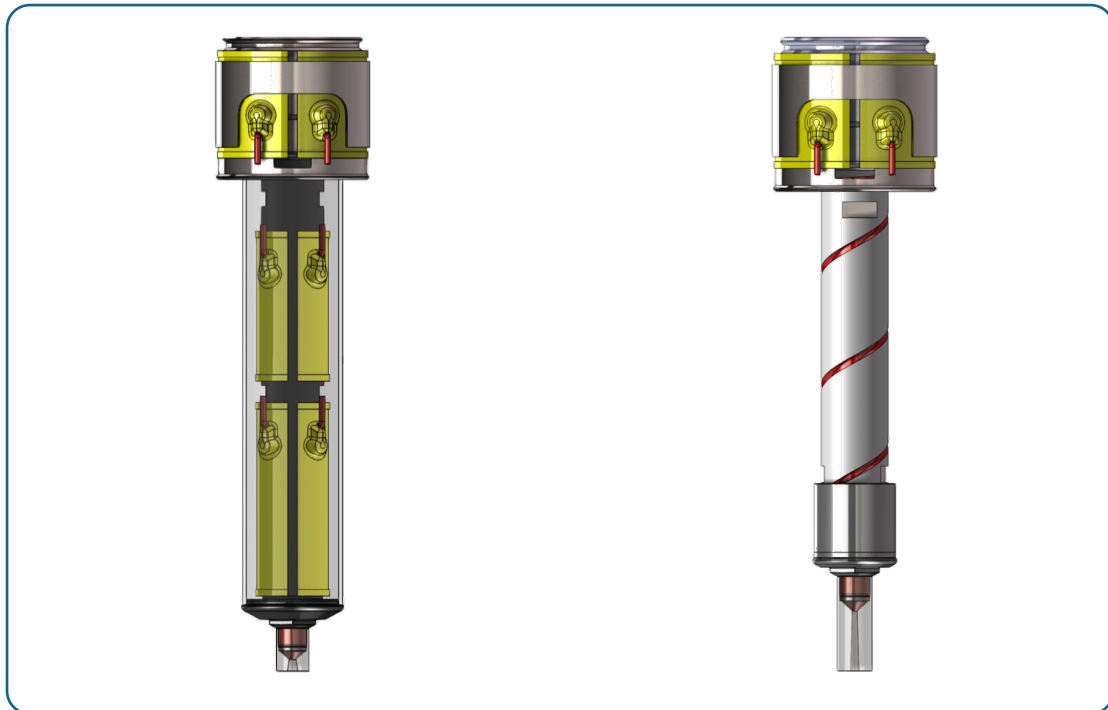
Many standard solutions have been developed to suit all injection situations:

- ☑ 2k molds
- ☑ Fast color change
- ☑ Increase L/Z ratio

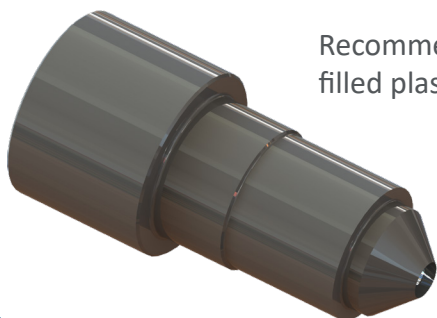
Open gate single nozzle.

PRODUCT HIGHLIGHTS

- ✔ Heated head
- ✔ Nozzle tip and nozzle position indexed (will always be in an accurate position)
- ✔ Removable and hardened nozzle seat
- ✔ Available with or without cabletrunk
- ✔ High performance tip technology for aesthetical or glass fiber reinforced parts:
 - ✔ Techtip for all materials
 - ✔ Easytip for polyolefins
 - ✔ Pinpoint or freeflow

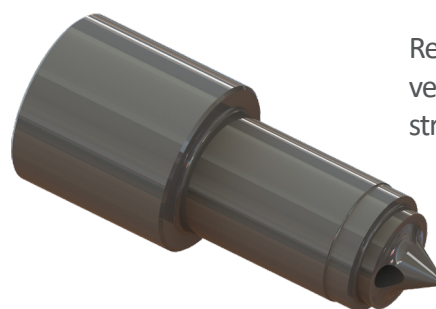


FREE FLOW:



Recommended for glass fiber filled plastics

PIN POINT:



Recommended for high vestige quality and gate string prevention

TECHNICAL FEATURES

Standard diameters to suit all injection needs and compact design

CLASS 1

NOZZLE A:

Not available

NOZZLE B:

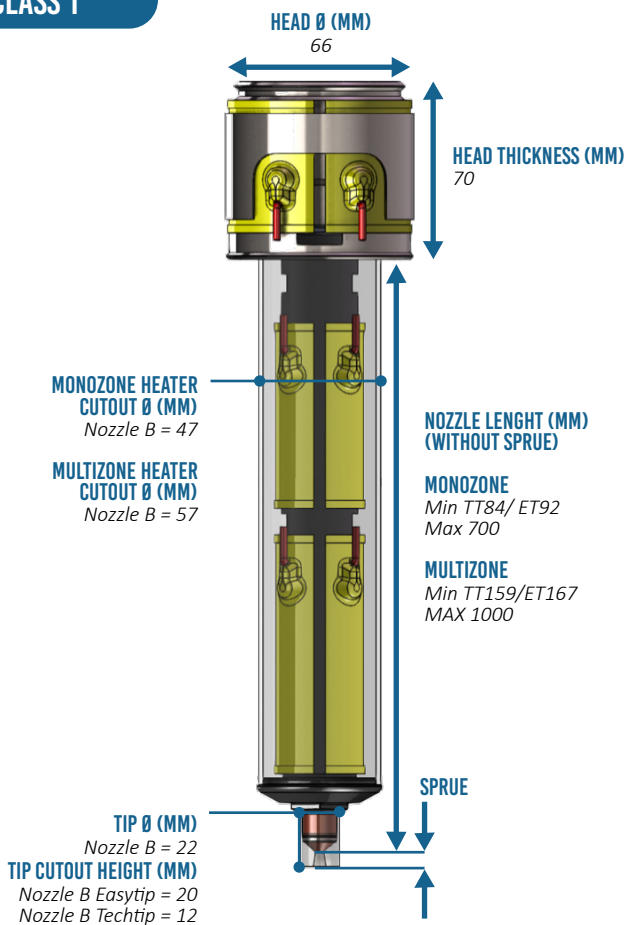
Ø 16, 18, 20 mm
Gate Ø 3, 4, 5 mm

CLASS 2

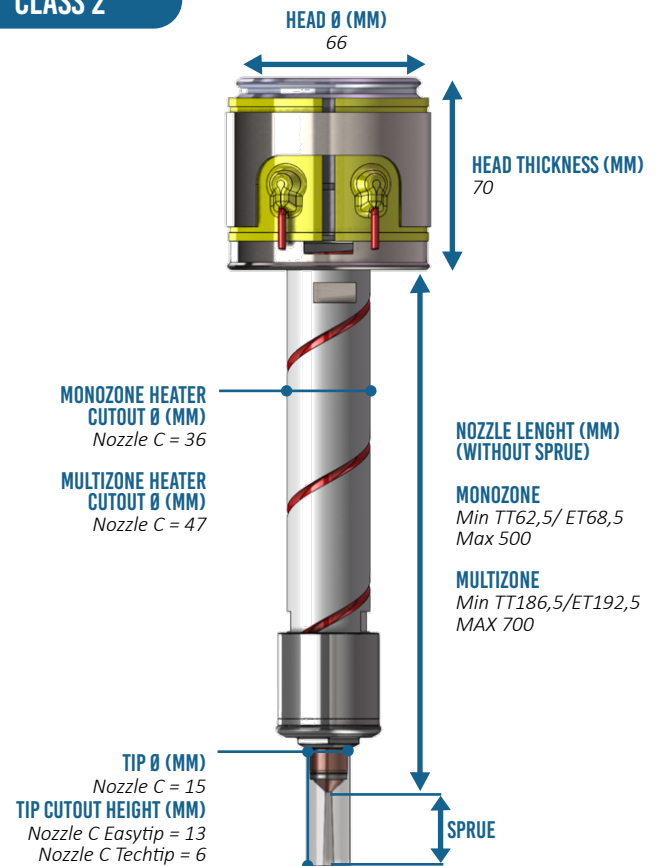
NOZZLE C:

Ø 10, 12, 14 mm
Gate Ø 2, 3, 4 mm

CLASS 1



CLASS 2



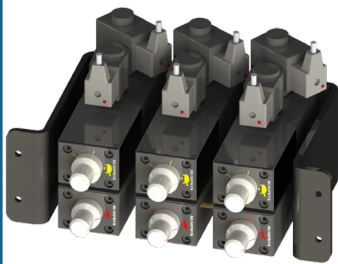
Advanced technology for aesthetical parts.

PRODUCT HIGHLIGHTS

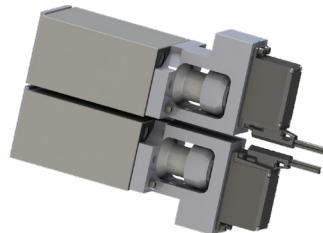
- ✔ The solution : a flexible and cost effective approach to demanding cosmetic applications
- ✔ Apply technology only on needed nozzles
- ✔ Moving back to standard sequential is possible and easy
- ✔ Symbioz S controller drives Flow Driver technology
- ✔ Upgrade existing or future hydraulic sequential hot runners system only if necessary (after first trials for instance)
- ✔ Adjust pin speed and pin position of the opening and closing

COMPONENT

HYDRAULICS

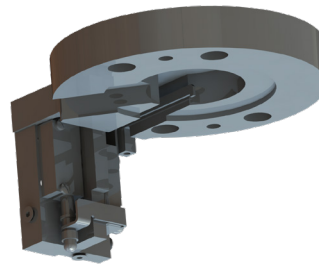


MULTISPEED MODULE



REMOTE SERVO

MECHANICS



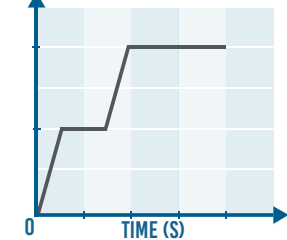
LINEAR SENSOR



PROGRESSIVE GATE

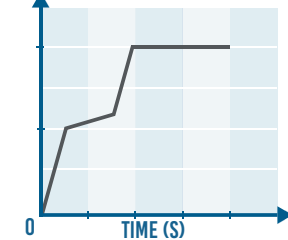
EXAMPLES OF SERIES

▶ S1L



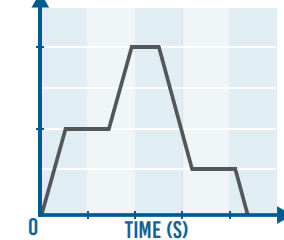
▶ 1 Adjustable Speed + Lock

▶ S2

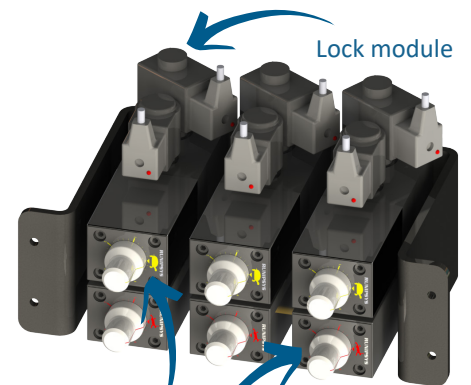


▶ 2 Adjustable Speeds (Fast, Slow)

▶ S1X



▶ 1 Adjustable Speed + 2 Locks falling edge & rising edge (Fast, Lock, Fast)



Slow speed module

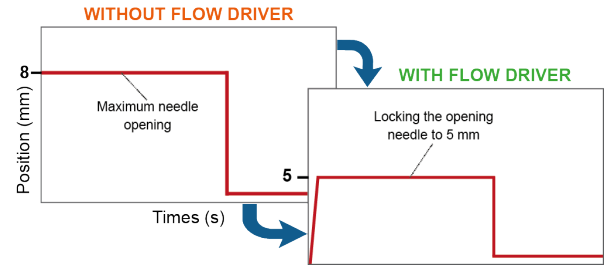
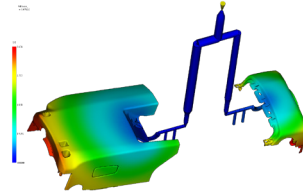
Fast speed module

APPLICATIONS

OPTIMIZE FLOW BALANCE:

Fine tune the flow rate to smaller cavities in a family tool and balance the filling of the cavities by locking the valve pin partially open until the packing phase.

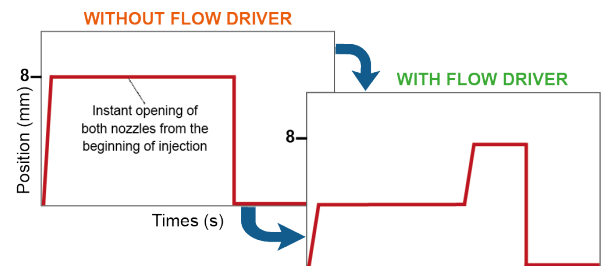
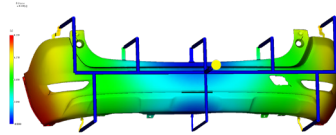
Case study : S1L



RELOCATED WELD LINES:

Slow the flow fronts of intersecting gates to relocate the weld line by locking the valve pin partially open.

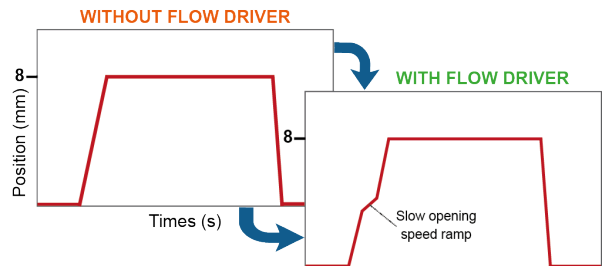
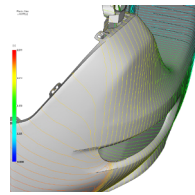
Case study : S1L



ELIMINATE ACCELERATION LINES:

Eliminate the sudden acceleration of the flow front in sequential systems by briefly slowing the opening of the valve pin.

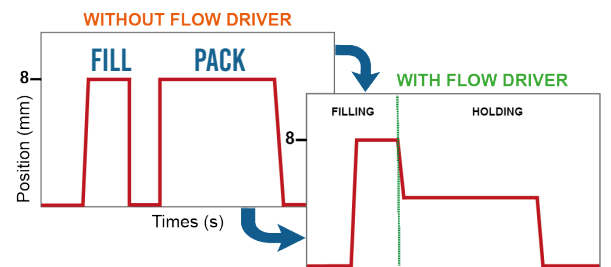
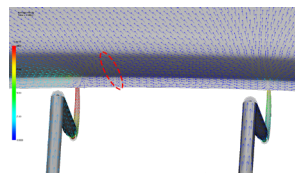
Case study : S2



ELIMINATE PRESSURE LINES:

Reduce the gate to gate material interaction to eliminate pressure lines by locking the valve pin partially closed during the packing phase.

Case study : S1X

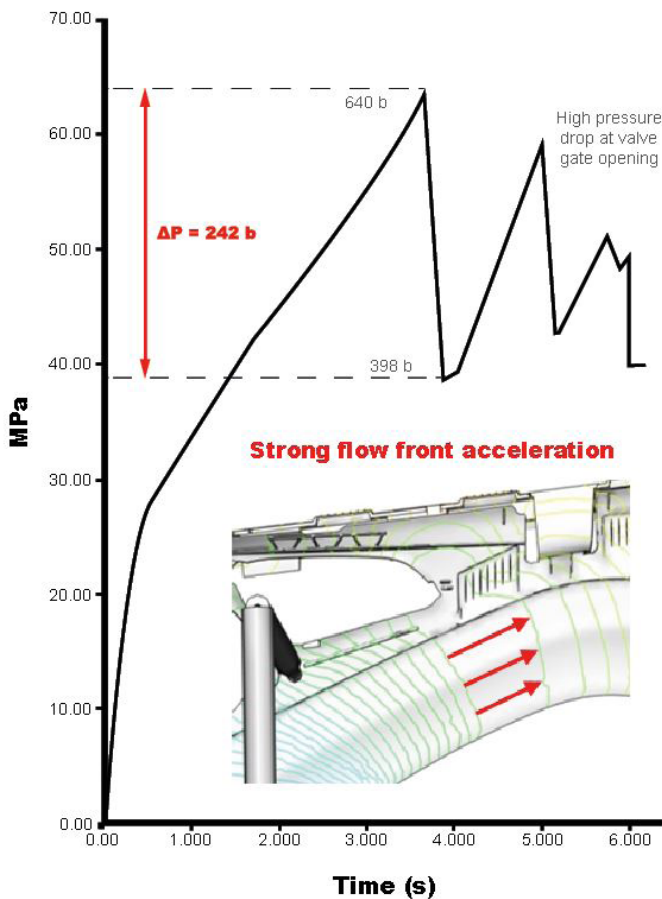


PRODUCT HIGHLIGHTS

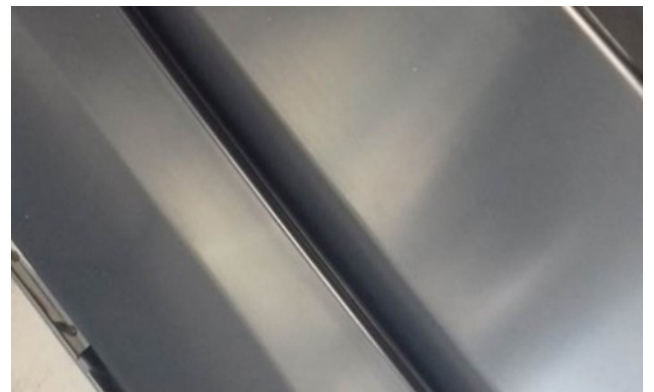
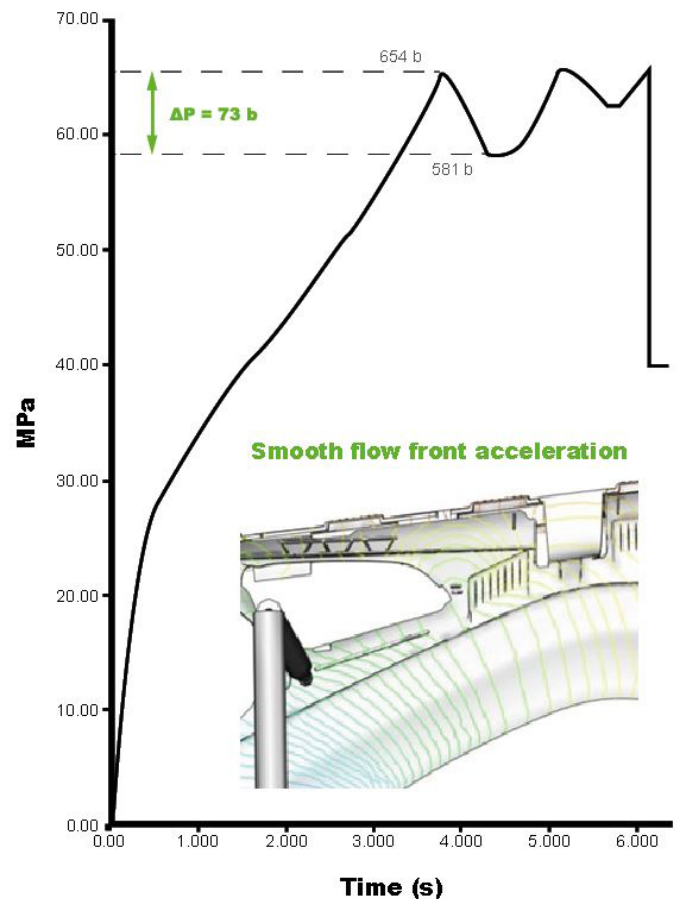
- Does not require any complex and expensive external device/option (available on valve gated product ranges)
- Allows efficient control over flow marks
- Progressive gate opening is available only for easytip for PP based applications (diam: 4 mm only)
- Cost effective hydraulic solution
- 100% embedded on the hot runner system

APPLICATION

Pressure drop responsible for flow marks

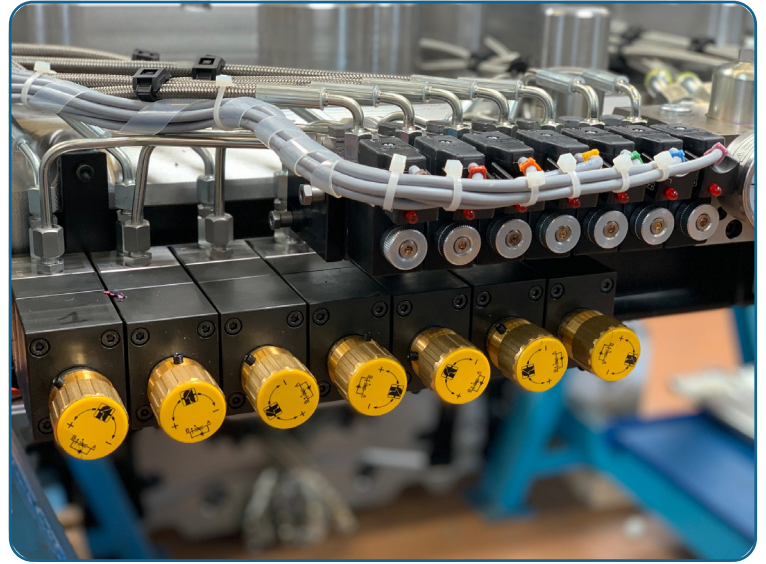
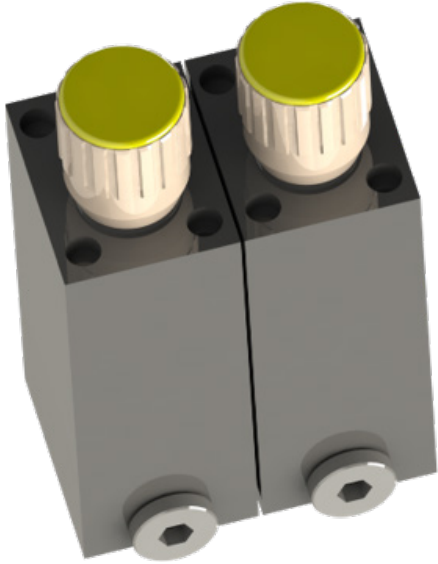


With Flow Control :
Elimination of the flow marks



OPTION 1

Individual gate speed opening control by high precision hydraulic Flow Control device.



OPTION 2

Progressive gate tip technology (not available for color change).



OPENING START:
Slow flow



MIDDLE STROKE:
Medium flow



FULL STROKE:
Full flow

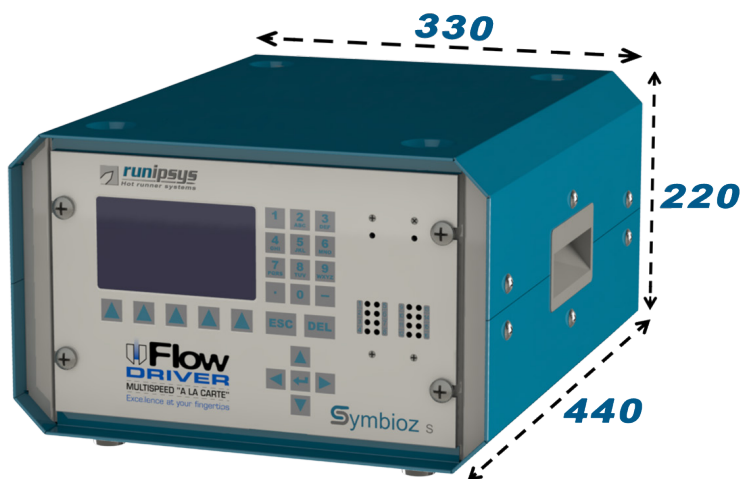


CYLINDRICAL GATE CLOSING:
Long life, perfect gate quality and guided needle

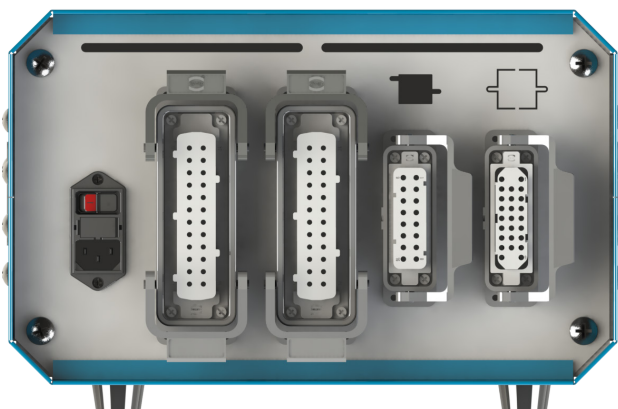
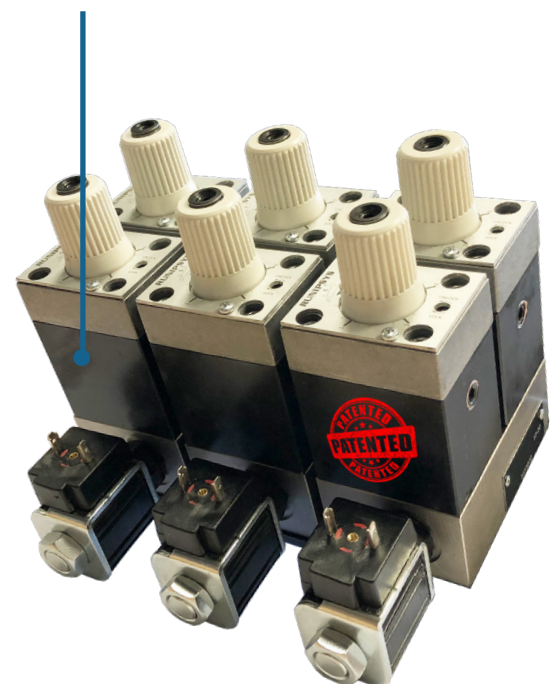
Flow Driver sequential controller.

PRODUCT HIGHLIGHTS

- ✔ Symbioz S multispeed valve pin controller for Runipsys patented Flow Driver technology
- ✔ Controls the latest Flow Driver functions:
 - ✔ Lock/unlock during opening & closing
 - ✔ Fast/slow
- ✔ Designed to be used in parallel with existing valve gate controllers and only control Flow Driver functions
- ✔ Up to 16 valve gate control signals available
- ✔ Intuitive Flow Driver specific programming through pc software: win is'tech (Refer to the back)
- ✔ Pc is not required for operation and can be removed after process parameters are set
- ✔ Internal memory can store up to 48 different mold process settings
- ✔ Process data monitoring and shot data storage is possible through permanent PC connection
- ✔ Remote access and control through pc connection (from outside the plant)
- ✔ No injection molding machine connection needed



SYMBIOZ S CONTROLLER DRIVES FLOW DRIVER TECHNOLOGY

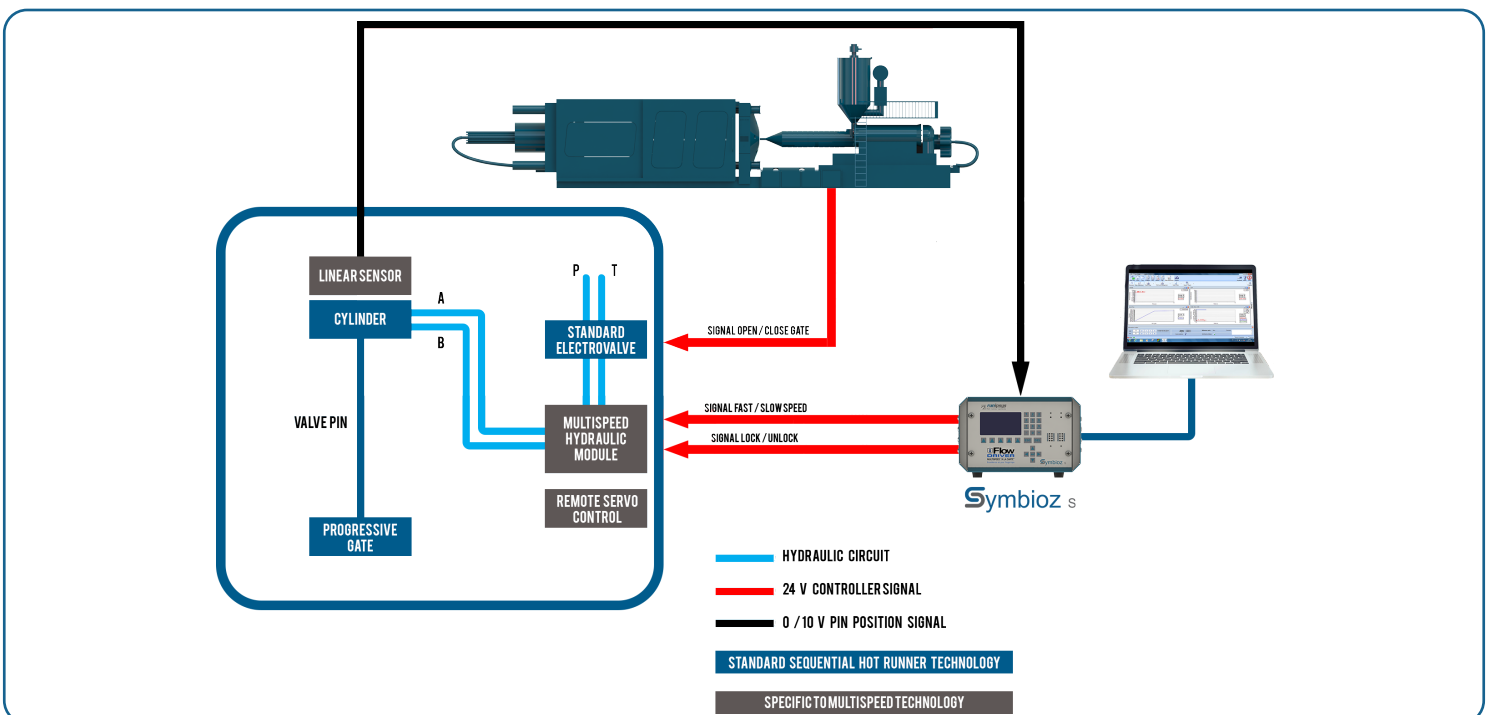


PROGRAM

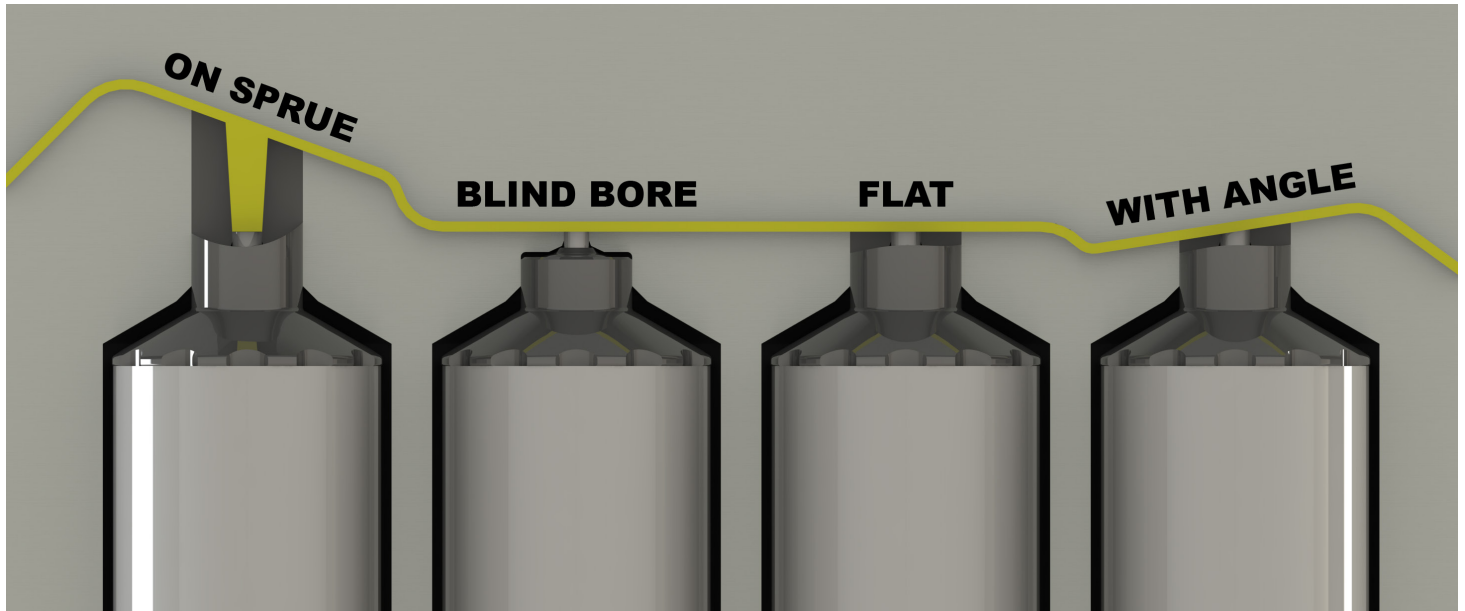
Intuitive WIN IS'TECH for Flow Driver PC programming software.

Channel	Name	Parameters	Val	Opening 1	Closing 1	Label#	Opening 2	Closing 2
1	EV1	Type: S2 Capteur: CM1	ON	CM1 - 5mm 3s		Top maintain - 0s	CM1 - 5mm 3s	
2	EV2	Type: S1L Capteur: CM2	ON	CM2 - 5mm 3s		Top maintain - 0s	CM2 - 5mm 3s	
3	EV3	Type: S1X Capteur: CM3	ON	CM3 - 5mm 3s	CM3 - 2mm 3s	CM3 - 0mm	CM3 - 5mm 3s	CM3 - 2mm 3s
4	EV4	Standard	ON			Top maintain - 0s		
5	EV5	Standard	ON					

Symbioz S controller drives Flow Driver technology.

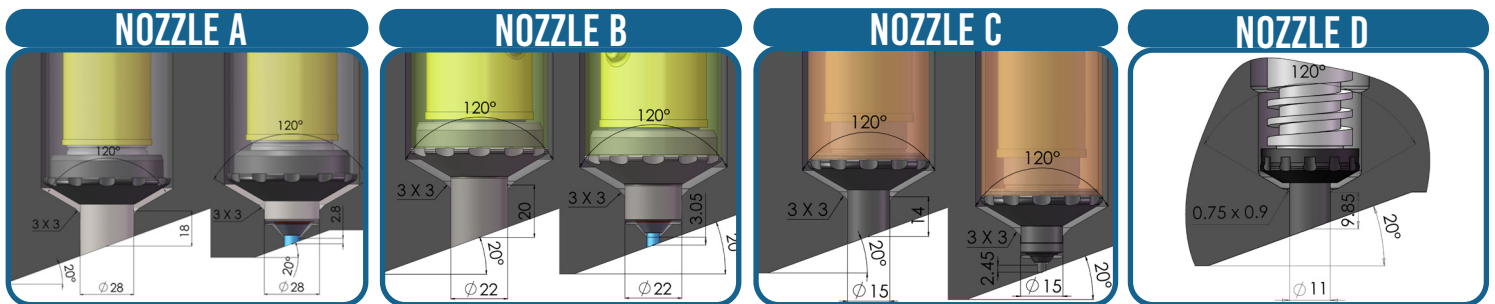


GATING TYPE

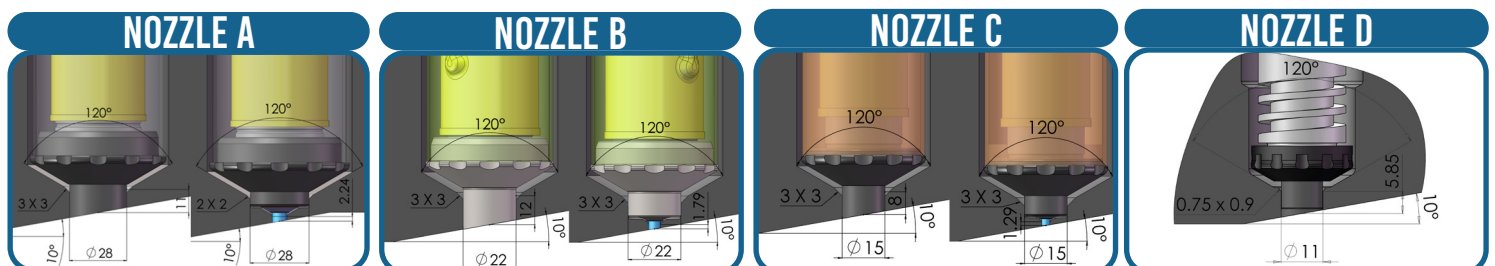


TIP LINE

EASYTIP: tip line for soft materials : PP, PE, TPE, SEBS



TECHTIP: tip line for hard materials : ABS, PC/ABS, PET, PBT, PA



Unique indexed tip technology.



NOZZLE TIP, VALVE PIN AND BUSHING INDEXED (WILL ALWAYS BE IN ACCURATE POSITION).

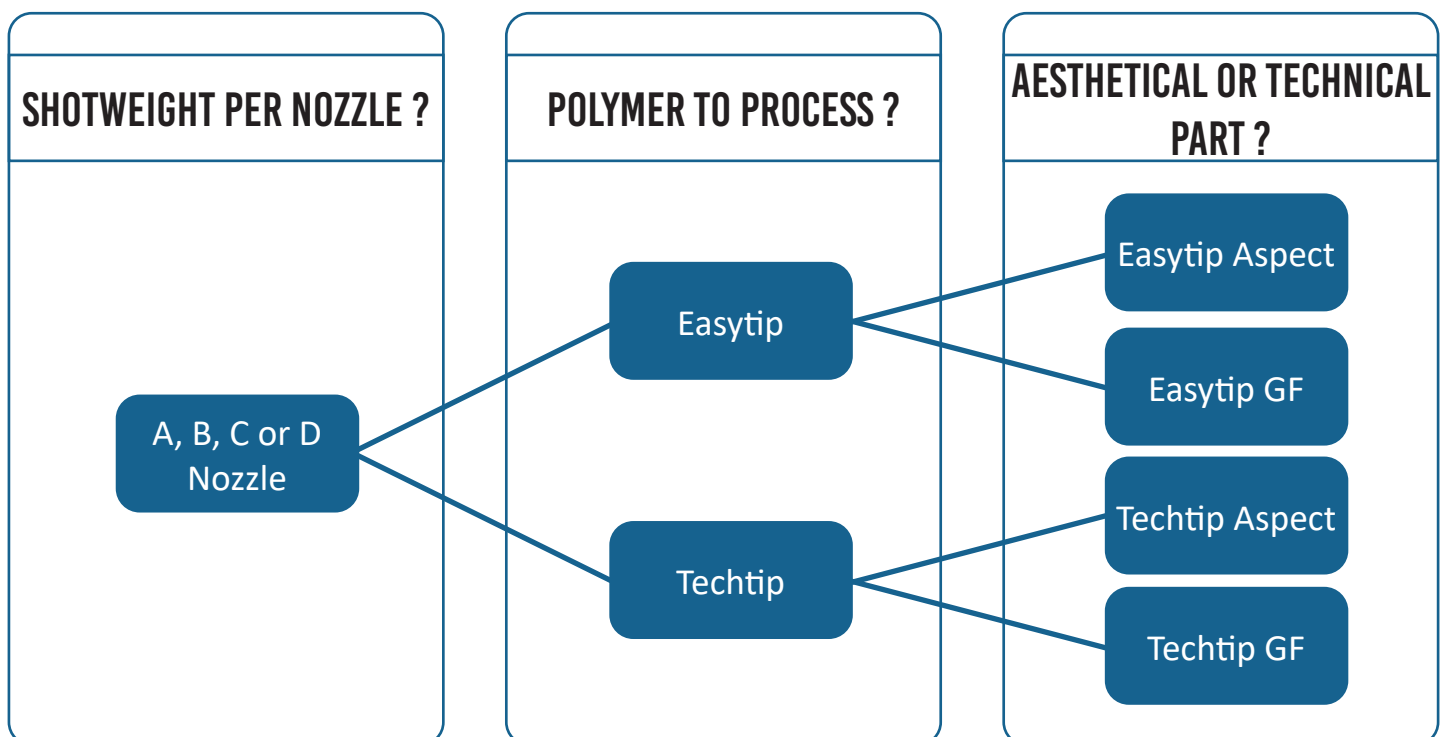
AESTHETICAL PARTS

- ✔ Smooth material flow
- ✔ No visible mark on part
- ✔ Excellent thermal barrier with tip

TECHNICAL PARTS

- ✔ Optimized wear resistance
- ✔ Preservation of fiber length
- ✔ Excellent thermal barrier with tip

PROCESS TO SELECT TIP



Nozzle D for the technical and small applications.

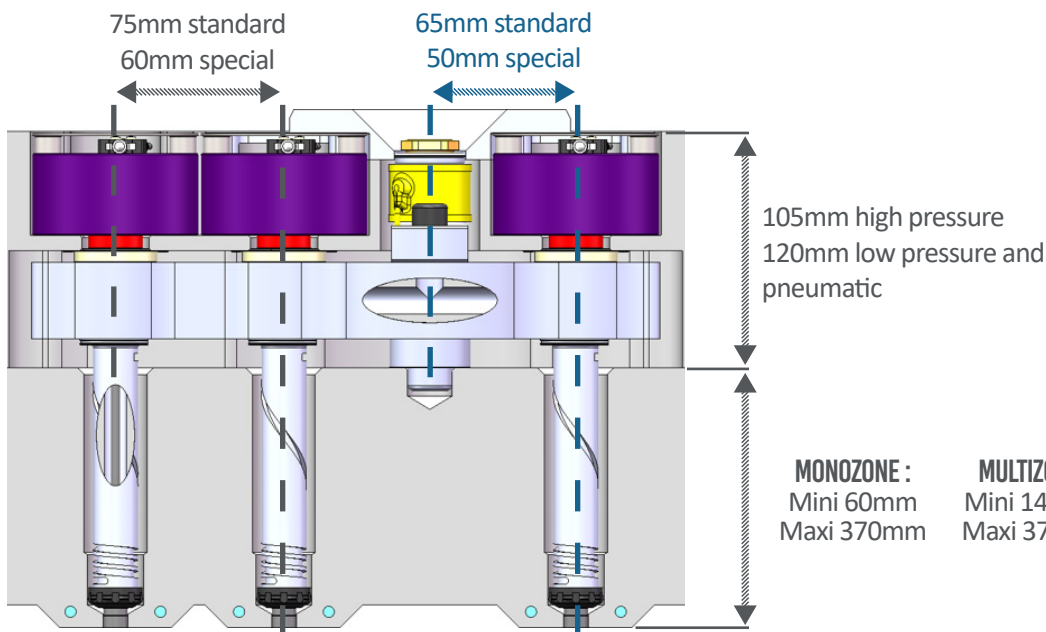
PRODUCT HIGHLIGHTS

- Injection capacity : 10 to 180 cm³ per nozzle
- Available for Open nozzles and Valve gates

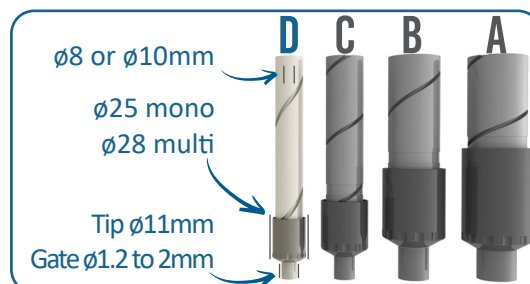
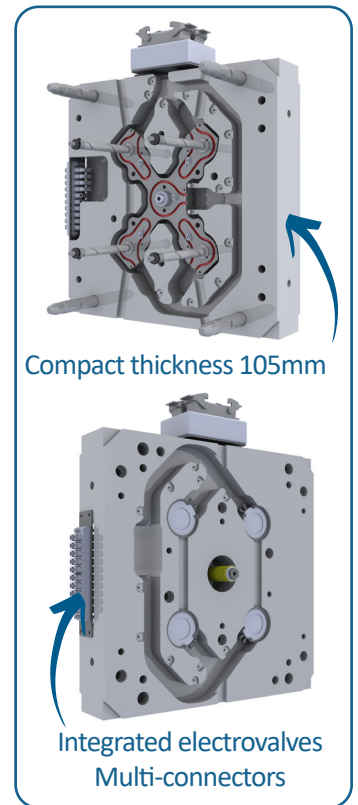
FEATURES OF THE MODULFLOW NOZZLE D

- Compact thickness : 105 mm with clamping plate included and **maximum mold support**
- No cooling water required for usual materials
- Monozone or multizone heatings
- Available with hydraulic or pneumatic cylinders

SPECIFICATIONS



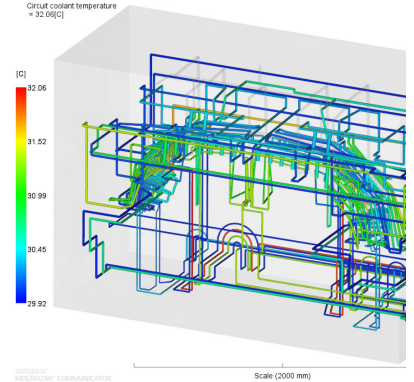
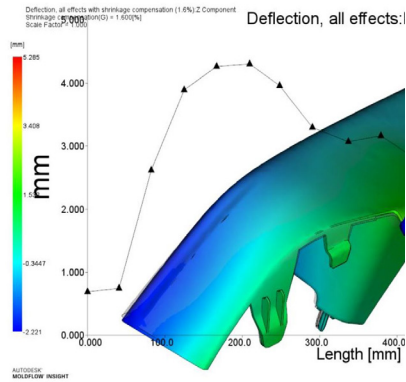
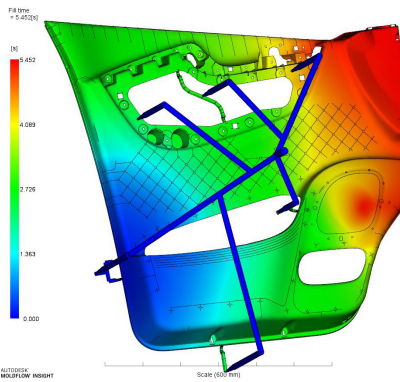
HYDRAULIC VERSION



Fully focused injection molding and tool experts.

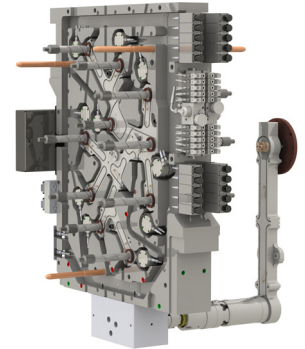
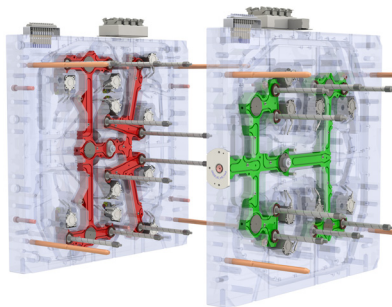
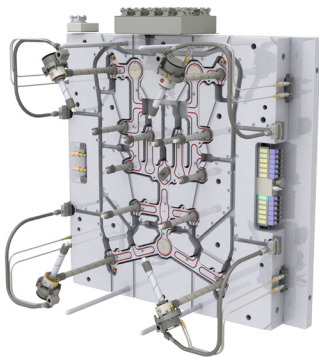
RHEOLOGY

Full studies with real hot runner design included fill, pack, cool and warp studies.



ENGINEERING

Mold customized 3D design by mold specialized designers.



AFTER SALES SERVICE



Our team members provide after-sales service with over 10 years of expertise in Runipsys products and many years of experience in this field. All clients are important, so when you call, you have a person.

We provide : Hot runner integration, trial assistance, molding plant assistance, quick response through experts' top-level know-how, spare parts, and training.