SUMMIT
PROCESS COOLING

Microgel
RSD-RSM

The future of mould cooling...

has just arrived.

Targets :

- Carry on Microgel development
- Refresh Microgel exterior design
- Achieve higher performance and features thanks to best technologies
- Create a new gap with the competition as done in 1993 with the first Microgel

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Name:

Name Meaning

Mono

R = Refrigerator
S = Scroll compressor
M = Single zone

Duo

R = Refrigerator
S = Scroll compressor
D = Double zone

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Order Code (models available 40-60-80):

N	R	S	M	0	0	4	0	E	H	P	4	0	0

Product name

M= mono
D = duo

Cooling zone

Assembly revision

040
060
080

Size

T = tower version
E= Ecodry version

Configuration

SP = standard pressure with ON/OFF pump/s
HP = high pressure with ON/OFF pump/s
SV = standard pressure with VFD
HV = high pressure with VFD

Pressure range and pump control type

4 = R410A

Refrigerant type

0 = not present
W = present

Flowmeter

0 = 400V-50Hz
1 = 460V-60Hz
3 = 380V-60Hz
5 = 460V-60Hz UL std.
7 = 200-220V-50-60Hz

Power supply as voltage/ frequency combination

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Availability:

Availability in various models:

RSD/M 40-60-80 models

- Q1 = pre-series(standard 15 machines)
- Q2 = standard deliveries 7/8 weeks

RSD/M 100-145-180-210 models

- Q3 = in production by the end of 2020

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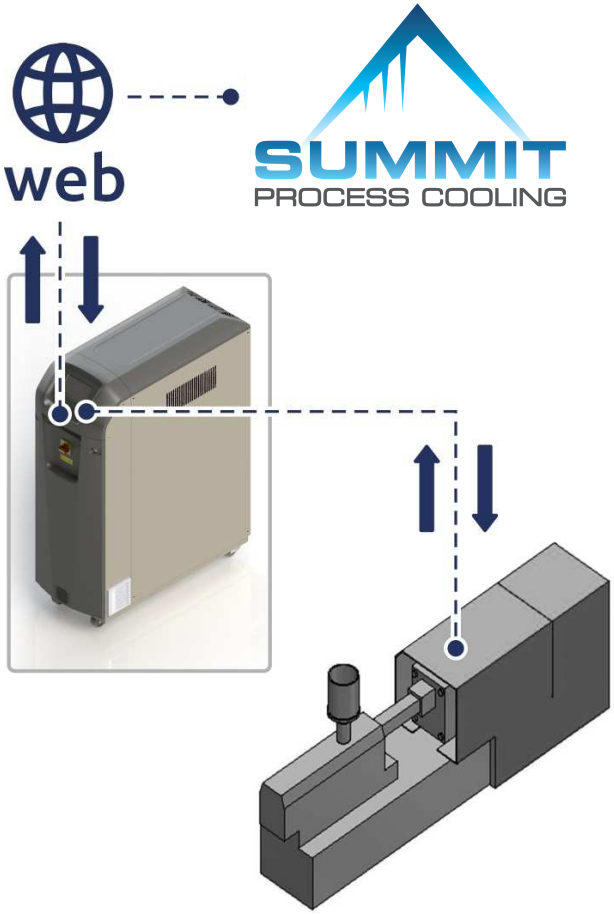
Performance:

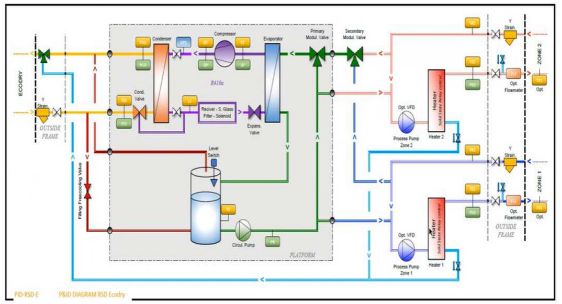
- All the main features of the current Microgel
- Brand new frame (modular assembly and better looking)
- Hydraulic circuits improved, higher flow less pressure drop
- Added a important add on components such as VFDs on pumps, flowmeters, power meter , SSR etc.
- New Software more performing, more features, more user friendly. New possibilities that disclose new horizons like **Synchronization with process (Syncro functionalities)**



Hydraulic circuit:

Thanks to our multi decennial know how we review completely the hydraulic circuit as follows:

- the modulating valve has been moved on the recirculation pump's loop to reduce the pressure drops on process side (more efficient than competitors solution that propose process loops with higher pressure drops, inside the Machine!)
- the heater has been moved on the delivery to guarantee the 100% filling of the heater box and to avoid possible air residues,that can generate crack of heating elements. Box is now cylindrical to reduce the mechanical stress, have better flow and avoid possible mechanical failures
- draining kit function as standard, **integrated** in the machine to match market requirements (simple and standard)
- Higher precision thanks to valves logic and new layout



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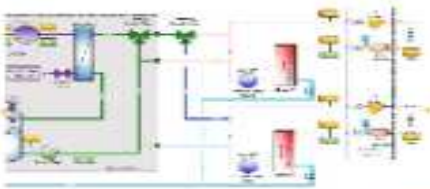
Hydraulic circuit:

Mixing valves in series

1 Monozone



2 Dual zone

Primary valve

- mix the water in order to maintain the setpoint
- in case of double zone, it maintains the lower between the two zones

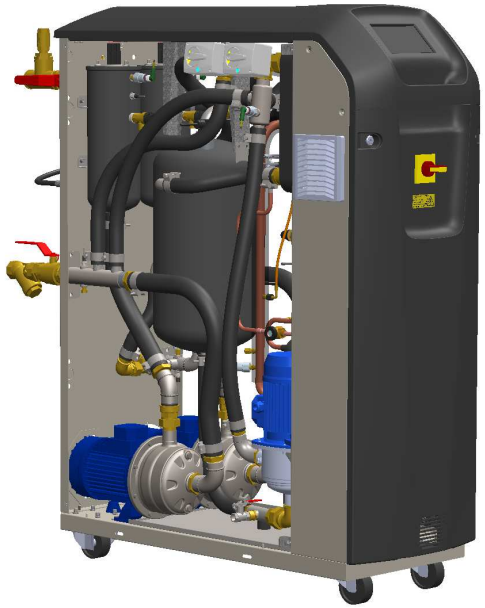
Only in case of Duo

Secondary valve

- divides the cold water flow between the two zones
- it is always fixed if the thermal load is balances between the two zones
- no problem of water mixing due to the same PR between the two zones

PROS

- Reduced pressure drop -> higher pressure available on process delivery
- Higher flow rate



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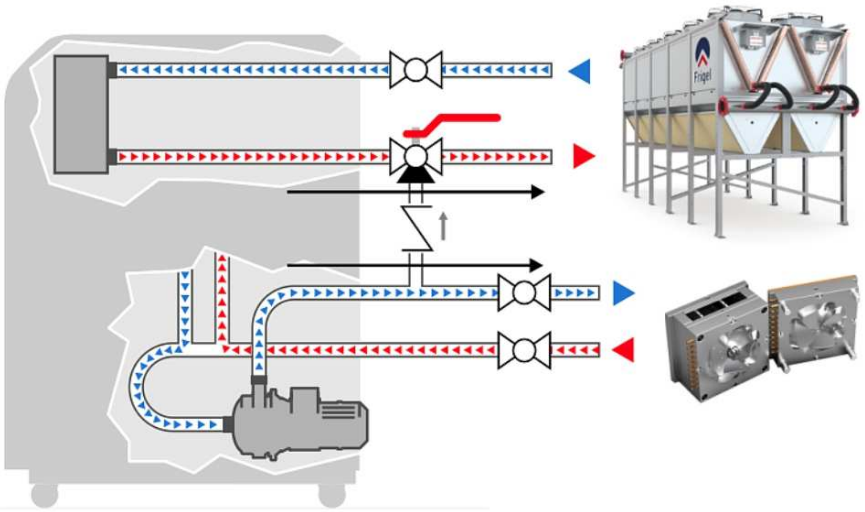
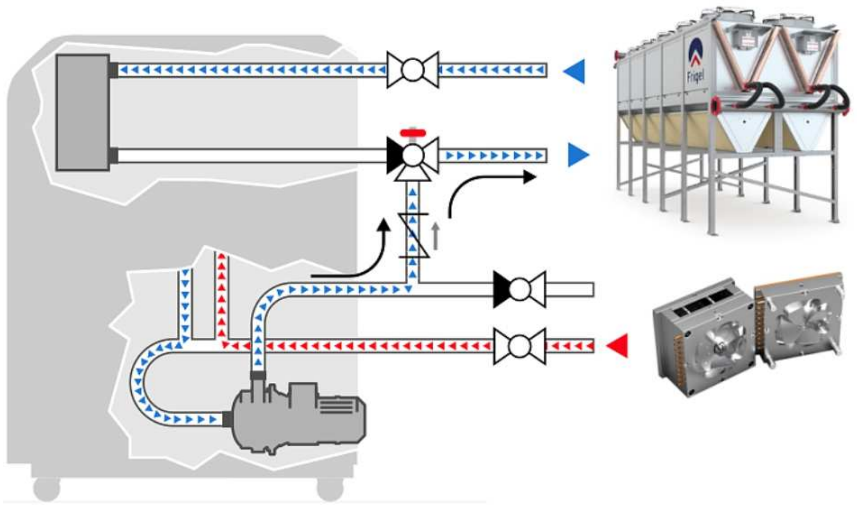
Hydraulic circuit: Mold/user drainage system (standard)



Working mode

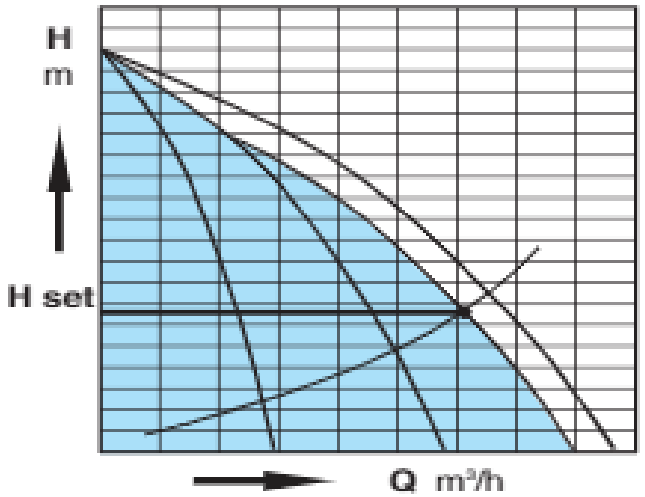


Draining mode

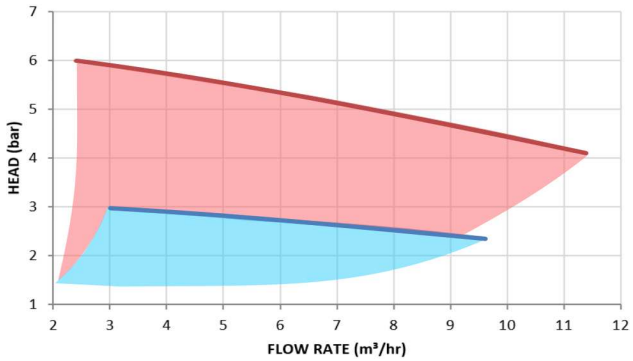
New components: VFD on the PUMPS

Variable Frequency Driven has now become a trend and is often used in the wrong way but, in machines such as Microgel, having the VFD on the pumps allows us to:

- Ensure adequate flow rate for variable loads such as different molds mounted on the same IMM, flexibility
- Reduce water hammer
- Extend the life of the pumps
- Reduce energy consumption, especially in high power pumps
- Allow us to activate the **Syncro** function



RS_60-80 Inverter



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New components: SSR

Static SSR (solid state relay) are A BETTER alternative to contactors for the following reasons:

- They can achieve higher control speeds
- They are quieter
- They have no moving mechanical parts, theoretical infinitive life
- Allow us more precise control in heating
- By now they will be a standard for all our next TCUs

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New components: Flowmeters - Wattmeter

- The **flowmeters** accurately measure the water flow rate of the process and allow precise control via the inverter.
- **Flowmeter** measure and control the only parameter that can be used to check tool status and connections :real flow
- The **power meter** is an instrument that measures the actual consumption of the Microgel, an important fact if we want to compare ourselves with similar machines
- Such devices make possible to answer to two common customers questions : How much water go to the mould? How much energy ?

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New components: Electronics and Software

- The **touch digital** has been reconfirmed as well as all the serial interfaces.
- The connection with the **MiND** is standard
- The **Syncro function** has been implemented

Microgel SYNCRO

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Process Synchronised Cooling
Increased profitability in plastic processing

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