

FAST MOVING TECHNOLOGY

*STÄUBLI*

# Connecting energies

**Die casting**





## Unique expertise in the Die Casting industry

Whether you want to enhance your die changeover procedures, maintain the highest performance levels from your casting presses or optimise non-production tasks, Stäubli offers a wide range of solutions that will save you time at every stage of the die casting process, whilst also increasing equipment output and efficiency.

### Connection solutions for all energy circuits

Presses are surrounded by both fluid and electrical circuits that are used to control the temperature of the die and core pullers. These have to be disconnected and reconnected each time there is a change in production. Integrating quick-release couplings or centralised connections on machines and tools considerably reduces tool change times. The wide variety of connector ranges available from Stäubli provides solutions for all configurations and operating conditions.

### Developments designed for users

Safety is a priority, especially on applications that require connection on high pressure circuits, those containing very hot fluids, or electrical circuits. Our knowledge of your applications, combined with our expertise, means that safety of property and people are always at the heart of our solutions. The ergonomics of the products is a key factor which we consider when designing our solutions, providing ease of use, and ensuring that the connection systems are intuitive to use.

# Solutions for connecting all forms of energy



### Connections guaranteeing reliability and high performance

Stäubli connections are recognised for their high performance and high quality. With their excellent flow rates, optimal sealing, fast response times, they significantly improve equipment productivity levels.

### Constant innovation

Stäubli is constantly developing new, innovative connection solutions to fully meet market requirements. In line with industry 4.0, our solutions are already designed to meet the demands of the industry, not just today but tomorrow.

### Local services, on an international scale

For Stäubli, the quality of a solution goes beyond just technical specification. Whether it is for system installation, user training or after-sales service, we have dedicated teams who provide each of our customers with the same quality of service, wherever they are.



Temperature control & Jet cooling



Hydraulic



Electrical



Vacuuming






Personalised solutions





## MOULD TEMPERATURE CONTROL & JET COOLING

Mould temperature management applications are particularly demanding. From full-flow solutions to non-spill connections, and from quick-release

couplings to multi-connection plates, Stäubli's ranges offer solutions for all processes, whatever the type of coolant, temperature, or flow rate. With numerous

configuration options, they can be incorporated seamlessly into any equipment.

	Single or double shut-off quick-release couplings - RMI	Ø (mm)	PS* (bar)	TS* (°C)
	With seven passage diameters and two variations of shut-off, the RMI range adapts to the customer's process, for example eliminating circuit draining operations. The strength of the materials used, the excellent flow rate and the quality of the locking system make it a reliable, high-performance solution.	06 09 12 16 20 25 37	16	-20 and +250
<b>Flat-face, anti-pollution quick-release couplings - CBI</b>				
	CBI connections are designed to withstand high mechanical stresses (vibration, oscillations, etc.). Their flat-face technology ensures non-spill operation, while increasing operator safety and protecting the integrity of fluids: no impurity or contaminant can enter the circuits. These couplings also make blind connection possible in hard-to-reach locations.	03 06 09 12 16 25	50	-20 and +250
<b>Quick-release couplings for high temperatures - HTI</b>				
	For connecting very hot fluid circuits, Stäubli has developed a connector which withstands temperatures of up to 300°C. This range of quick-release couplings complies with the most stringent safety regulations and has a double-action locking system. As this coupling does not have a seal in the fluid stream, it does not require any specific maintenance.	09 12 16 25	12	0 and +300

	Multi-connection systems - RMI	Ø (mm)	Number of plugs/couplings*
	Using RMI plates, all mould temperature control circuits can be connected safely in a single step. Their design prevents any inversion of the circuits during connection and eliminates any risk of inadvertent coupling between similar plates. There are numerous possible configurations in terms of the number of couplings on the plate or the choice of passage diameters, in order to adapt to each application.	06 09 12 16	6 to 20
<b>Flat-face multi-connection systems - MCI</b>			
	MCI manual plates optimise mould changeover times and improve both the efficiency and the safety of operations. The plates are equipped with flat-face couplings which protect the integrity of coolants or heating fluids, in particular during connection and disconnection. The variety of configurations available makes it easy to integrate this compact solution into your installations.	09	6 to 20
<b>High temperature multi-connection systems - HTM</b>			
	The HTM manual plate is designed for very high temperature applications up to 300°C. Its control lever enables safe, fast, and centralised connection for all forms of energy. As this solution does not have a seal in the fluid stream, it does not require specific maintenance, which saves additional down time.	09 12	12
<b>Jet cooling multi-connection systems - UCP</b>			
	For jet cooling applications, a high number of small flow diameter circuits are needed, to connect the water and air circuits to different spots on the die. The multiconnectors plate specifically addresses this need with its small connectors and high number of circuits which are fitted in a small area. These connectors can be easily and quickly changed with a single screw for a fast changeover.	04	16 to 40

Stäubli can design personalised solutions if required (connections, locking, dimensions, etc.): please contact us for more information.



Ø = Nominal diameter  
 PS = Maximum allowable pressure  
 TS = Minimum and maximum allowable temperatures  
 \*according to model and operating conditions

CORE PULLER

The connection solutions for core puller cylinders must be reliable and efficient. The strength of the materials used and the choice of seals and locking systems make

Stäubli solutions ideal for the most demanding applications in terms of high pressures or temperatures. All of these qualities can be found on our centralised

connection systems, providing maximum safety and performance.



	High Flow non-spill coupling - TCH	Ø (mm)	PS* (bar)	TS* (°C)
	TCH couplings offer an improved flow rate and pressure drop ratio, as well as excellent compatibility with pressure peaks and vibrations. The bayonet locking system, the ergonomic handwheel, the integrated swivel and the catching end position, ensure a simple, quick and safe handling.	20	25	150
		25		
		30		
		40		
High Flow non-spill coupling - TTX				
	This range of dry disconnect couplings offers an optimum high flow rate, non-spill technology with disc valve design that ensures sealing during connection and disconnection. The modular buildup allows quickest maintenance and the ergonomic design ensures easy handling. Low force is required for operation, even under pressure.	20	25	180
		30		
		40		
		40		

VACUUM

Vacuuming minimises gas entrapment during the metal casting process, reducing porosity. The design and quality of the material's used in Stäubli's quick

couplings provide high levels of integrity and optimum flow under harsh conditions. This contributes to the efficiency of vacuum-assisted die


casting, by enhancing the process stability and improving the quality of complex casted parts.


	Modular quick-release couplings - RBE	Ø (mm)	PS* (bar)	TS* (°C)
	These couplings can be operated with one hand using the push-button, enabling fast connection and disconnection of hydraulic circuits. This range also offers a wide variety of diameters, materials, and shut-off options, as well as many other possibilities.	03	450	0 and +250
		06		
		08		
		11		
		19		
Full flow coupling - GPL				
	Protected sealing and locking, shock resistance, an ergonomic shape for easy handling, the GPL range is perfectly adapted to demanding conditions of use. Automatic connection/disconnection offers easy maintenance for the user and a reduction in assembly time even when connecting in difficult to access areas.	15	10	0 and +90
		20		
		25		
		33		
		33		

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	Medium pressure quick-release couplings - MPX	Ø (mm)	PS* (bar)	TS* (°C)
	This range features excellent resistance to high temperatures together with an optimal flow. Its antipollution design, which complies with standard ISO 16028, protects the integrity of circuits and the environment. Its safety features include locking by simple rotation, with a mechanism which prevents the locking sleeve being pulled back accidentally.	06	315	-15 and +180
		10		
		12		
		16		
		19		
		25		
High pressure quick-release couplings - CBX				
	The compact design and automatic locking system of CBX couplings make them an ideal solution for repeated, blind, or hard-to-reach connections. They can be connected under residual pressure (PA option) and have a protective dust cap. This antipollution range, with its flat-face technology, ensures spill-free connection of hydraulic circuits, ensuring operator safety and integrity of fluids.	03	450	-15 and +250
		06		
		09		
		12		
		16		
High resistance quick-release couplings - SBA				
	SBA quick-release couplings are extremely strong, allowing a direct, continuous flow of fluids without any turbulence or breaks in the stream. It has a reliable locking system with a robust mechanism comprising numerous large cross-section balls. All of the seals and sealing faces are protected from external impact. When the PA option is selected, the SBA quick-release coupling can also connect circuits under residual pressure.	08	450	-15 and +150
		11		
		12		
		15		
		15		
Heavy duty screw-on couplings - HPX				
	The screw-on locking system with its claw safety feature guarantees extremely robust connections, even those subjected to pulsating or vibrating cycles. Optional coloured metal caps allow instant visual identification of circuits, and for easier handling, plugs can be fitted with a hand wheel.	08	500	-15 and +150
		12		
		16		
		20		
		25		
		33		

PERSONALISED CENTRALISED CONNECTION SYSTEMS

High yield flush face connections - SPX	Ø (mm)	PS* (bar)	TS* (°C)
 <p>Clean break, robust and easy to handle, SPX couplings are ideal for hydraulic connections in difficult environments. This very comprehensive range offers several options: visual identification of circuits by colour coding, anti-dust protection, metal protective dust caps, possible connection under residual pressure, panel mount version, stainless steel quality aimed at applications in highly corrosive environments.</p>	06	450	-15 and +150
	08		
	12		
	16		

Multi-connection systems for hydraulic circuits - RMP	Ø (mm)	Number of plugs/couplings*
 <p>With a high-flow volume and fluid velocity (up to 30 meters per second), RMP manual plates offer excellent performance. They are ideal for the requirements of core pullers and other high pressure applications. They feature the option of a screw or a lever locking system. These plates are equipped with non-spill couplings, ensuring no risk of pollution or accidental oil spillage into the mould during disconnection, and no ingress of air or pollutants/contaminants into the circuits during connection. The robust, easy to handle design of the RMP couplings ensures they are reliable and safe to use.</p>	08	2 to 6
	09	


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CONTROL, POWER AND THERMOCOUPLE CIRCUITS


Electrical applications require totally reliable connection solutions. Stäubli systems are modular, which means that control, power, and thermocouple circuits can be connected in a single

movement without any risk of error. The connectors are designed to withstand harsh working environments, ensuring a high degree of conductivity, continuous contact in vibrating conditions and

reduced temperature increases. These reliable, ergonomic, modular solutions adapt to every application.

High resistance electrical connectors - REP	Ø contacts (mm)	Number of connectors*
 <p>The REP connector is a modular solution consisting of pre-fitted plates with 2, 3 or 4 housings. The adaptable design of this connector enables male or female electrical inserts to be mounted on fixed or mobile plates. With two outlet types available, straight or 90°, the REP connector can be incorporated quickly and seamlessly into installations. For safety and reliability of the processes, their design prevents inversion of circuits and has a pin coding system that eliminates any risk of inadvertent connection between the various plates.</p>	1.5	2, 3 or 4 (74 to 148 contacts)
	02	
	03	
	05	
	06	

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TS = Minimum and maximum allowable temperatures - \*according to model and operating conditions

Personalised centralised connection system	
 <p>Multi Connect Systems are designed using couplings for fluids and standard electrical connectors, to meet the needs of each customer and the specific features of their application. Circuits can be connected manually, or the operation can be fully automated, depending upon the customer's requirement.</p>	According to customer specification

ROBOTIC TOOL CHANGING SOLUTIONS



Stäubli has decades of expertise in the supply of automatic robotic tool changing systems for all robot makers and models, all payloads and numerous applications worldwide.

100% powered by Stäubli

Stäubli's high quality, robust tool changers offer the reliability required by harsh environments. All components are manufactured by Stäubli and are perfectly matched to each other.

The modular design and wide selection of high-quality transfer modules fulfill all tooling and application requirements. This results in compact systems with efficient use of space and a comprehensive transmission technology.

High performance and safety

The exclusive Multilam technology, for example, ensures low and constant contact resistance, and high durability contacts withstand up to 1 million mating cycles. The sophisticated fluid connector technology ensures high flow rates and prevents pollution of the circuit. Stäubli constantly strives for the maximum safety of people and equipment and so all its robotic tool changing systems are designed with high safety standards, up to Performance Level-d Category 3.

Stäubli tool changer systems offers a full range of options for robots and applications with payloads from 10 to 2,500 kg.

Models	Payload (kg)	Models	Payload (kg)	Models	Payload (kg)
MPS 015	10	MPS 080	80	MPS 631	630
MPS 025	25	MPS 130	100	MPS 1530	1530
MPS 035	35	MPS 260	350	MPS 2531	2500
MPS 055	55				



● Staubli Units    ○ Representatives/Agents

# Global presence of the Staubli Group

[www.staubli.com](http://www.staubli.com)