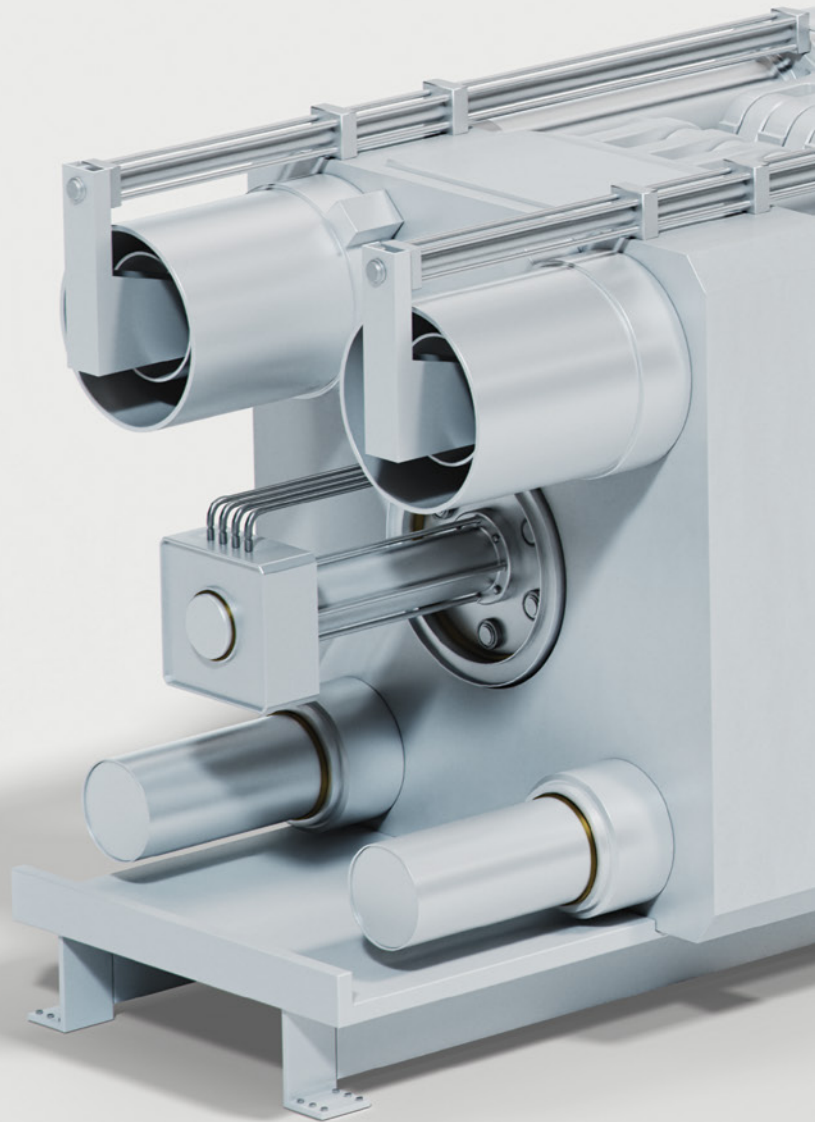


**FX
VAC**

**FX
JET**

**FX
SQUEEZE**



A FASCINATION FOR HPDC

COMPANY	
Pioneering spirit / History	3
Fondarex Group	4
TECHNOLOGY & PRODUCTS	
Vacuum	6-9
HIGHVAC PROGRESS	10
FX VAC	12-15
Jet Cooling	16
FX JET	18-21
Squeeze	22
FX SQUEEZE	24
STEEL VENTS / KINETIC VALVES / HYDRAULIC VALVES	28
JET NOZZLES	30
SERVICES	
Channel design	32
Technical support / Remote assistance / Training	34
Representatives & Contacts	37-39

Pioneering spirit

Fondarex was originally established as a die-casting foundry in Montreux, Switzerland, in 1946. Six years later, the company developed its first vacuum system, marking the beginning of a long history of innovation. Over the decades, Fondarex’s technological advancements have helped shape the vacuum die-casting industry.

In 2024, Fondarex expanded its portfolio with the introduction of FX JET and FX SQUEEZE, complementing its established FX VAC technology. These innovations are part of the company’s strategy to better meet customer needs by enhancing the quality, performance, and cost-effectiveness of die-cast components.

History

1946	Fondarex is established as a pressure die-casting foundry by Mr. Fritz Hodler in Montreux
1952	Invention of the first vacuum system for the pressure die-casting industry
1971	Launch of the OPTIVAC vacuum systems
1978	Fondarex decides to focus entirely on vacuum technology for pressure die casting
1989	Fondarex is taken over by Mr. Konrad Baumgartner
1990	Launch of the VACUPAC vacuum systems
2002	Launch of the first vacuum system for the-plastic injection molding industry
2010	Launch of the HIGHVAC vacuum systems
2013	Launch of the VACUPLAST vacuum system for the plastic injection molding industry
2014	Mr. Dominik Baumgartner becomes CEO
2020	Launch of the MODULAR vacuum system
2021	Creation of the subsidiary company Fondarex (Wuxi) Machinery Co., Ltd in Wuxi, China
2022	Creation of the subsidiary company Fondarex Europe GmbH in Überherrn, Germany
2024	Launch of the FX Technologies: FX VAC / FX JET / FX SQUEEZE



**Connecting Innovation, Production,
and Performance Worldwide.**



FONDAREX GROUP

Switzerland

Created in 1946, Fondarex SA is the Group's headquarters, providing technical support, developing training programs, driving innovation based on market needs, and continuously optimizing product competitiveness for its partners.

In collaboration with its representatives worldwide, as well as its subsidiaries Fondarex (Wuxi) Machinery Co., Ltd and Fondarex Europe GmbH, the Fondarex Group shares one vision: to be a reliable partner for part quality and cost efficiency in die casting and plastic injection molding.

Germany

Fondarex Europe GmbH, founded in 2022, was created to develop complementary products to the Group's existing vacuum technology, in close collaboration with Fondarex in Switzerland and China.

With the launch of FX JET and FX SQUEEZE in 2024, Fondarex further improves die-cast part quality by offering effective solutions against both gas and shrinkage porosities, delivering higher performance and added value to its customers.

China

Fondarex (Wuxi) Machinery Co., Ltd, founded in 2021, was created to complement and strengthen production in Switzerland, increasing Fondarex's competitiveness and its ability to serve both Western and Asian markets.

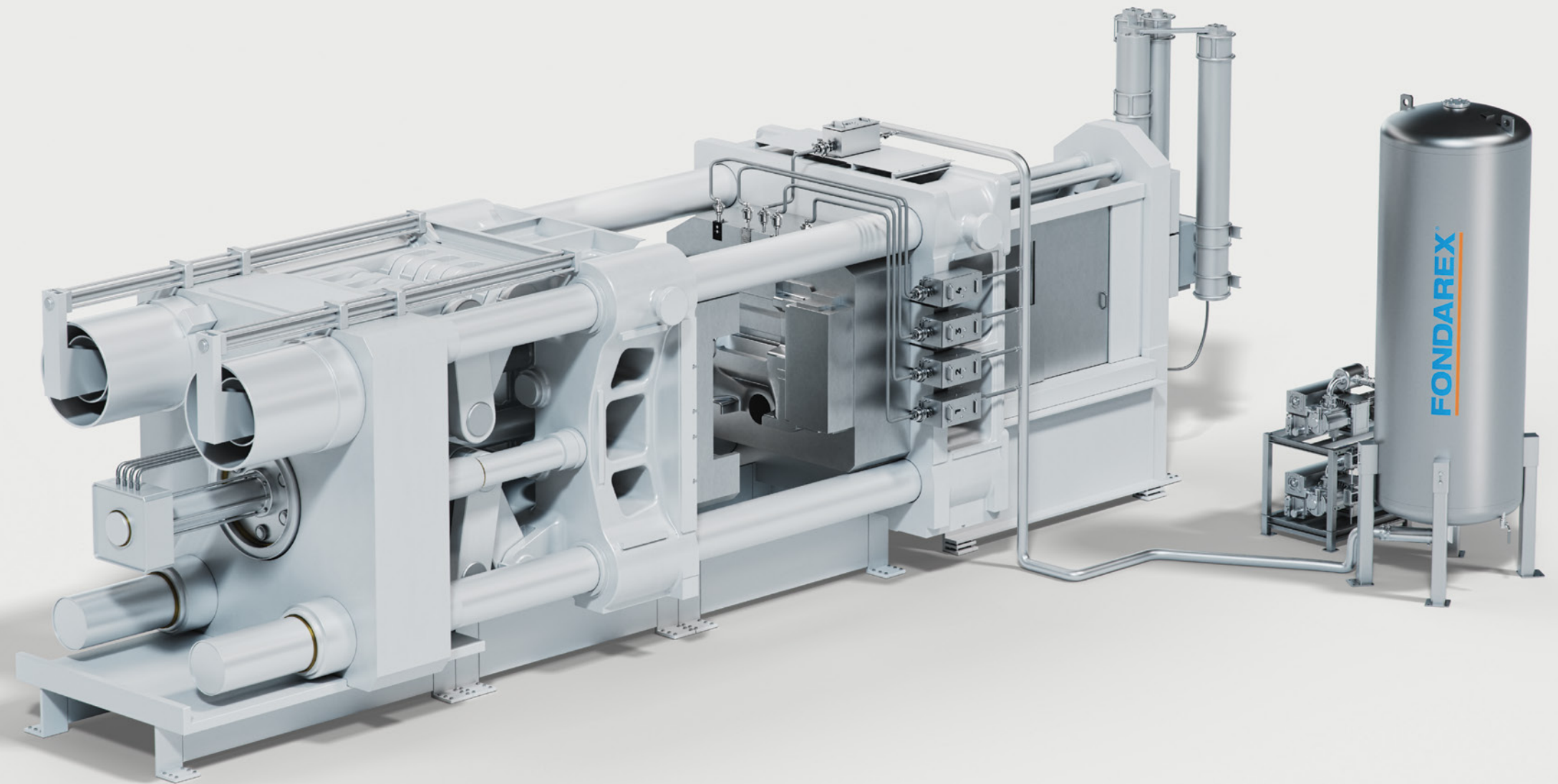
This subsidiary enables Fondarex to support its Asian customers according to the company's standards, with fast, professional technical service and efficient spare-parts delivery, reinforcing its local presence and customer support network.

Principle of vacuum die casting

In pressure die casting, once the injection piston has passed the pouring hole, the Fondarex vacuum system can begin evacuating air either from the cavity and/or from the shot sleeve.

Evacuation from the cavity can be achieved through different solutions: a mechanical valve, a hydraulic valve, or a chill vent, available in steel or copper execution. These systems ensure efficient air removal before and during the critical filling phase.

The Fondarex vacuum system controls and monitors the entire process and manages each vacuum channel individually. The aim is to ensure consistent and repeatable evacuation performance in each cycle, according to the application and customer requirements.



VACUUM

Research and development

Fondarex's research & development team is continuously striving to advance and perfect vacuum technology for high-pressure die casting. Working in close collaboration with technical centers and customer partners worldwide, Fondarex benefits from the experience and feedback of more than 1,000 customers in over 50 countries.

This strong synergy between market requirements and research enables Fondarex to continuously innovate and develop technologies that meet the evolving demands of its customers. It is this commitment to innovation, combined with close customer collaboration, that has established Fondarex as the global market leader in vacuum solutions for high-pressure die casting.

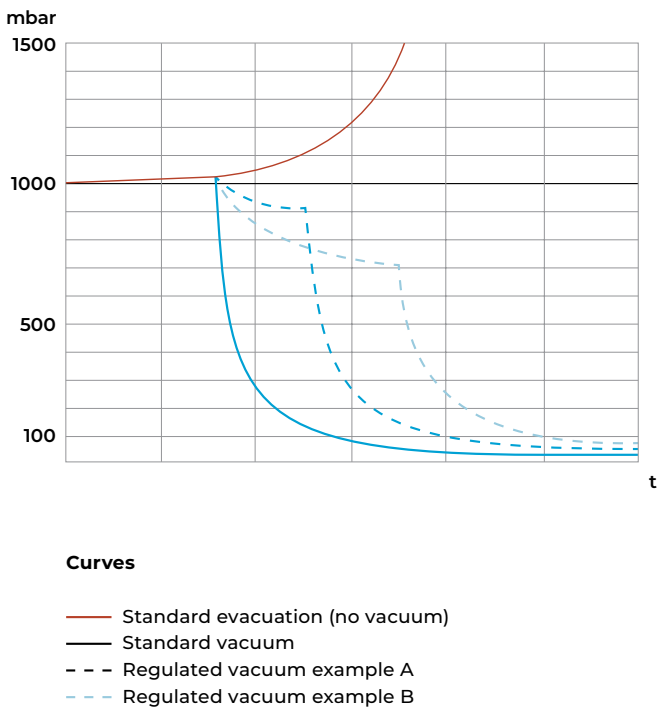
VACUUM MAKES THE DIFFERENCE

The specialist

Fondarex, the leading specialist in vacuum systems can help you achieve the most difficult projects, such as automobile structural parts, surface parts, heat treated parts, thin-walled parts and safety parts.

Advantages of vacuum die casting

- Significantly reduced air and gas content, resulting in lower porosity in the die-cast aluminum structure
- Increased density and improved overall casting quality
- Excellent filling of complex mold geometries without air resistance
- Enhanced characteristics of thin-wall components and reduced porosity in thicker sections
- Easier achievement of optimal filling times and greater flexibility in process parameters
- Superior mechanical properties and overall component performance
- Improved surface quality, providing an ideal basis for subsequent surface treatments
- Compatibility with heat treatment processes (T4, T5, T6, and T7)
- Suitable for components requiring welding
- Reduced reject rates, resulting in more cost-effective and sustainable production
- Technically superior solution for demanding die-casting applications



Fondarex efficiency curves

During an injection process, the cavity air pressure evolution is strongly influenced by how effectively air is evacuated before and during melt filling.

Different vacuum strategies lead to distinct pressure-time profiles inside the cavity: standard vacuum or regulated vacuum. Depending on the application, Fondarex is able to set the optimal vacuum curve.

Technical data HIGHVAC PROGRESS

GENERATION		2026.07
Mobile configuration		Yes
Cell configuration		Yes
Central configuration		Yes
Vacuum channels		2
Controls chill blocks		Yes
Controls mechanical valves		Yes
Controls hydraulic valves		Optional
Tank capacity		500 l (Mobile configuration) 1000 l (Mobile/Cell configuration) 2000 l (Cell configuration) 3000 l (Cell configuration)
Vacuum pump performance		63 m³/h (Tank 500 l) 100 m³/h (Tank 1000 l) 160 m³/h (Tank 1000 l / 2000 l) 200 m³/h (Tank 2000 l / 3000 l) 300 m³/h (Tank 3000 l)
HMI		Mobile: Remote HMI (Standard) Cell: Remote HMI (Standard)
MONITORING (HMI-DISPLAY)		
Language (Standard)		EN (US) / DE / FR / IT / SP / PT / SE / CZ / SK / PL / RO / HU / TR / CN / KR / JP
Process overview display		Yes
Vacuum in the tank		Yes
Vacuum at die side		Per channel
Pollution control (Filter)		Per channel
Profile control (Chill block)		Per channel
Evacuated air volume		No
Compressed air pressure		Yes
MONITORING (CURVE OVER TIME)		
Vacuum in the tank		Only value
Vacuum at die side		Per channel
Curve modes		Per shot
RECORDED VALUES		
Storage medium		USB-Stick
Production data		Yes
Vacuum on die side per cycle		Per channel
Pollution control per cycle		Per channel
Profile control per cycle		Per channel
Evacuated air volume per cycle		No
Vacuum active setting		Yes
Hydraulic valve closing setting		No
FEATURES		
Timer setting mode		Yes
Stroke setting mode		No
Automatic / Manual mode		Yes
Tolerance setting (Per CCAB)		Vacuum Pollution control Profile control
Vacuum control (regulation)		No
Vacuum for shot sleeve		No
Blowing function		Yes
Leak test		No
Fault recording		Yes
Recipe management		Yes
Stand-by mode for energy saving		Yes

KEY COMPONENTS	
CPU	Siemens
HMI	Siemens 7"
Internal field bus technology	IO-Link
Pump Type	Fondarex Pump
Frame material	Carbon steel
Tank material	Carbon steel
Protection class (MCAB)	IP54
Protection class (CCAB)	IP54
ENVIRONMENTAL CONDITIONS	
Temperature	5–42°C
Relative air humidity	0–90% (Not condensing)
Pressurized air	5–7 bar at 3500 l/min
DIMENSIONS [WIDTH X HIGHT X DEPTH] / WEIGHT	
Dimension HIGHVAC PRO-GRESS Mobile 500	800 x 1690 x 1315 mm
Weight HIGHVAC PROGRESS Mobile 500	425 kg
Dimension MCAB	295 x 750 x 300 mm
Dimension CCAB	400 x 450 x 300 mm
VOLTAGE / CERTIFICATION	
Voltage, max. power consumption (Standard)	3 x 400V ± 10 % / 50/60hz
Certification	CE (Standard)
CONNECTORS / FITTINGS	
CCAB input vacuum	DN40
CCAB output vacuum	DN25
CCAB M pipe fitting	8L G1/4"
CCAB S pipe fitting	8S G1/4"
CCAB pressurized air	1/2"
OPTIONS	
Compressed air regulator	Mobile = Standard / Cell = Optional
Maintenance set	Optional

HIGHVAC PROGRESS®

This entry-level vacuum system is designed for reliable performance in die casting applications where consistent quality and process stability are required. It helps reduce scrap rates and supports compliance with modern manufacturing standards.

The system is available in a compact configuration with up to 2 independently controlled vacuum channels, providing essential flexibility for smaller or less complex applications while maintaining efficient cavity evacuation.



FX VAC

Model 4

This all-round vacuum system is essential for modern die casting operations aiming to maximize quality, minimize scrap, and meet the demanding standards of today's manufacturing industry.

Available in mobile, cell, and central configurations with up to 4 independently movable vacuum channels.

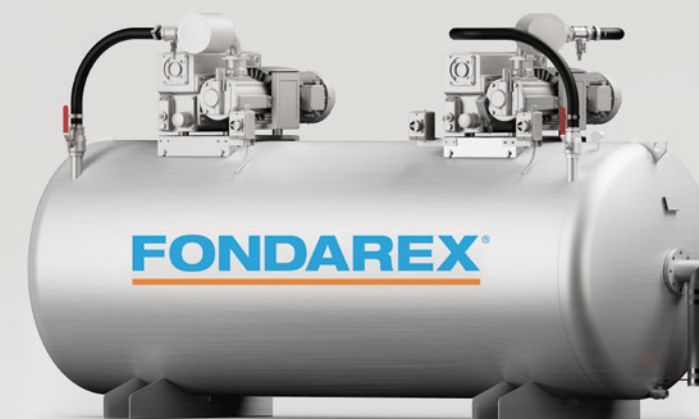
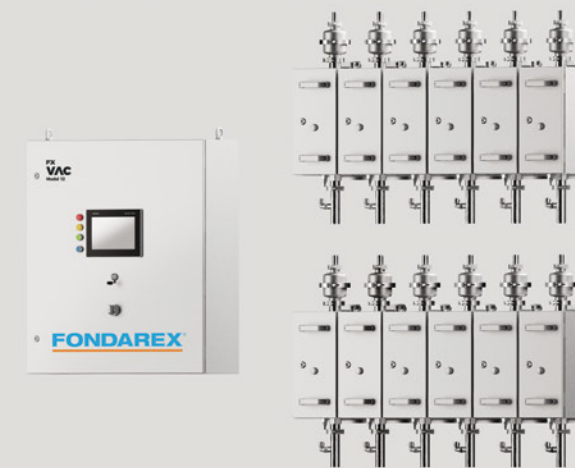


FX VAC

Model 12

This advanced vacuum system drives modern die casting for e-mobility and gigacasting, ensuring the precision, flexibility, and intelligence required to meet the highest automotive standards for quality and innovation.

Available in cell and central configurations with up to 12 independently movable vacuum channels.



Technical data FX VAC Model 4

GENERATION	2026.07
Mobile configuration	Yes
Cell configuration	Yes
Central configuration	Yes
Vacuum channels / CCABs	1 to 4
Controls chill blocks	Yes
Controls mechanical valves	Yes
Controls hydraulic valves (With position sensor or with transducer sensor)	Yes
Tank capacity	900 l (Mobile configuration) 1000 l (Cell configuration) 2000 l (Cell configuration) 3000 l (Cell configuration)
Vacuum pump performance	100 m³/h (Tank 900 l) 160 m³/h (Tank 1000 l / 2000 l) 200 m³/h (Tank 2000 l / 3000 l) 300 m³/h (Tank 3000 l)
HMI	Mobile: Integrated HMI (Standard) Cell: Remote HMI (Standard)
Fan for main cabinet (MCAB)	Max. 42 °C
MONITORING (HMI-DISPLAY)	
Language (Standard)	EN (US) / EN (UK) / DE / FR / IT / SP / PT / SE / CZ / SK / PL / RO / HU / SL / HR / GR / TR / CN / KR / JP
Process overview display	Yes
Vacuum in the tank	Yes
Vacuum at die side	Per CCAB
Pollution control (Filter)	Per CCAB
Profile control (Chill-block)	Per CCAB
Evacuated air volume	Yes
Compressed air pressure	Yes
MONITORING (CURVE OVER TIME)	
Vacuum in the tank	Yes
Vacuum at die side	Per CCAB
Curve modes	Continuous curve Defined start-end time curve Frozen curve at defined time
RECORDED VALUES	
Storage medium	USB-Stick / OPC-UA
Production data	Yes
Vacuum on die side per cycle	Per CCAB
Pollution control per cycle	Per CCAB
Profile control per cycle	Per CCAB
Evacuated air volume per cycle	Yes
Vacuum active setting	Yes
Hydraulic valve closing setting	Yes
FEATURES	
Timer setting mode	Yes
Stroke setting mode	Yes
Automatic / Manual mode	Yes
Tolerance setting (Per CCAB)	Vacuum Pollution control Profile control Evacuated air volume
Vacuum control (regulation) (Per CCAB)	Yes
Vacuum for shot sleeve	Yes
Blowing function	Yes
Leak test	Per CCAB
Fault recording	Yes
Recipe management	Yes
Stand-by mode for energy saving	Yes

KEY COMPONENTS	
CPU	Siemens
HMI	Siemens 10"
Internal field bus technology	I/O-Link
Pump Type	Busch rotary vane vacuum pump
Frame material	Stainless steel
Tank material	Stainless steel
Protection class (MCAB)	IP54
Protection class (CCAB)	IP65
ENVIRONMENTAL CONDITIONS	
Temperature	5–42°C
Relative air humidity	0–90% (Not condensing)
Pressurized air	5–7 bar at 3500 l/min
DIMENSIONS [WIDTH X HIGHT X DEPTH] / WEIGHT	
Dimension FX VAC MODEL 4 Mobile 900	2338 x 900 x 1360 mm
Weight FX VAC MODEL 4 Mobile 900	620 kg
Dimension MCAB	1170 x 900 x 390 mm
Weight MCAB	51 kg
Dimension CCAB	900 x 220 x 270 mm
Weight CCAB	22 kg
VOLTAGE / CERTIFICATION	
Voltage, max. power consumpti-on (Standard)	3 x 400V ± 10% / 50hz ± 1%
Voltage, max. power consumpti-on (Optional)	3 x 480V ± 10% / 60hz ± 0,5%
Certification	CE (Standard) / UL (Optional)
CONNECTORS / FITTINGS	
CCAB input vacuum	DN40
CCAB output vacuum	DN25
CCAB M pipe fitting	8L G1/4"
CCAB S pipe fitting	8S G1/4"
CCAB pressurized air	1/2"
OPTIONS	
Profinet interface to DCM	Optional
Profibus interface to DCM	Optional
Anybus	Optional
Advanced communication	Optional
HMI remote panel	Mobile: Optional
Type of HMI Wein View	10" (Optional) 20" (Optional)
Analog curve display on DCM (Trace channel)	Optional
Indicator light tower deported	Optional
Remote assistance (EWON)	Optional
Compressed air regulator	Mobile = Standard / Cell = Optional
Air conditioner	Optional
Extension for power supply	From 25 m
Maintenance set	Optional

Technical data FX VAC Model 12

GENERATION	2026.07
Cell configuration	Yes
Central configuration	Yes
Vacuum channels / CCABs	1 to 12
Controls chill blocks	Yes
Controls mechanical valves	Yes
Controls hydraulic valves (With position sensor or with transducer sensor)	Yes
Tank capacity	1000 l to 6000 l
Vacuum pump performance	100 m³/h 160 m³/h 200 m³/h 300 m³/h 500 m³/h
HMI	Cell: Remote HMI (Standard)
Fan for main cabinet (MCAB)	Max. 42 °C
MONITORING (HMI-DISPLAY)	
Language (Standard)	EN (US) / EN (UK) / DE / FR / IT / SP / PT / SE / CZ / SK / PL / RO / HU / SL / HR / GR / TR / CN / KR / JP
Process overview display	Yes
Vacuum in the tank	Yes
Vacuum at die side	Per CCAB
Pollution control (Filter)	Per CCAB
Profile control (Chill-block)	Per CCAB
Evacuated air volume	Yes
Compressed air pressure	Yes
MONITORING (CURVE OVER TIME)	
Vacuum in the tank	Yes
Vacuum at die side	Per CCAB
Curve modes	Continuous curve Defined start-end time curve Frozen curve at defined time
RECORDED VALUES	
Storage medium	USB-Stick / OPC-UA
Production data	Yes
Vacuum on die side per cycle	Per CCAB
Pollution control per cycle	Per CCAB
Profile control per cycle	Per CCAB
Evacuated air volume per cycle	Yes
Vacuum active setting	Yes
Hydraulic valve closing setting	Yes
FEATURES	
Timer setting mode	Yes
Stroke setting mode	Yes
Automatic / Manual mode	Yes
Tolerance setting (Per CCAB)	Vacuum Pollution control Profile control Evacuated air volume
Vacuum control (regulation) (Per CCAB)	Yes
Vacuum for shot sleeve	Yes
Blowing function	Yes
Leak test	Per CCAB
Fault recording	Yes
Recipe management	Yes
Stand-by mode for energy saving	Yes

KEY COMPONENTS	
CPU	Siemens
HMI	Siemens 10"
Internal field bus technology	I/O-Link
Pump Type	Busch rotary vane vacuum pump
Frame material	Stainless steel
Tank material	Stainless steel
Protection class (MCAB)	IP54
Protection class (CCAB)	IP65
ENVIRONMENTAL CONDITIONS	
Temperature	5–42°C
Relative air humidity	0–90% (Not condensing)
Pressurized air	5–7 bar at 3500 l/min
DIMENSIONS [WIDTH X HIGHT X DEPTH] / WEIGHT	
Dimension MCAB	1170 x 900 x 390 mm
Weight MCAB	86 kg
Dimension CCAB	900 x 220 x 270 mm
Weight CCAB	22 kg
VOLTAGE / CERTIFICATION	
Voltage, max. power consumpti-on (Standard)	3 x 400V ± 10% / 50hz ± 1%
Voltage, max. power consumpti-on (Optional)	3 x 480V ± 10% / 60hz ± 0,5%
Certification	CE (Standard) / UL (Optional)
CONNECTORS / FITTINGS	
CCAB input vacuum	DN40
CCAB output vacuum	DN25
CCAB M pipe fitting	8L G1/4"
CCAB S pipe fitting	8S G1/4"
CCAB pressurized air	1/2"
OPTIONS	
Profinet interface to DCM	Optional
Profibus interface to DCM	Optional
Anybus	Optional
Advanced communication	Optional
Type of HMI Wein View	10" (Optional) 20" (Optional)
Analog curve display on DCM (Trace channel)	Optional
Indicator light tower deported	Optional
Remote assistance (EWON)	Optional
Compressed air regulator	Mobile = Standard / Cell = Optional
Air conditioner	Optional
Extension for power supply	From 25 m
Maintenance set	Optional

JET COOLING

Producing quality and cost-efficient parts

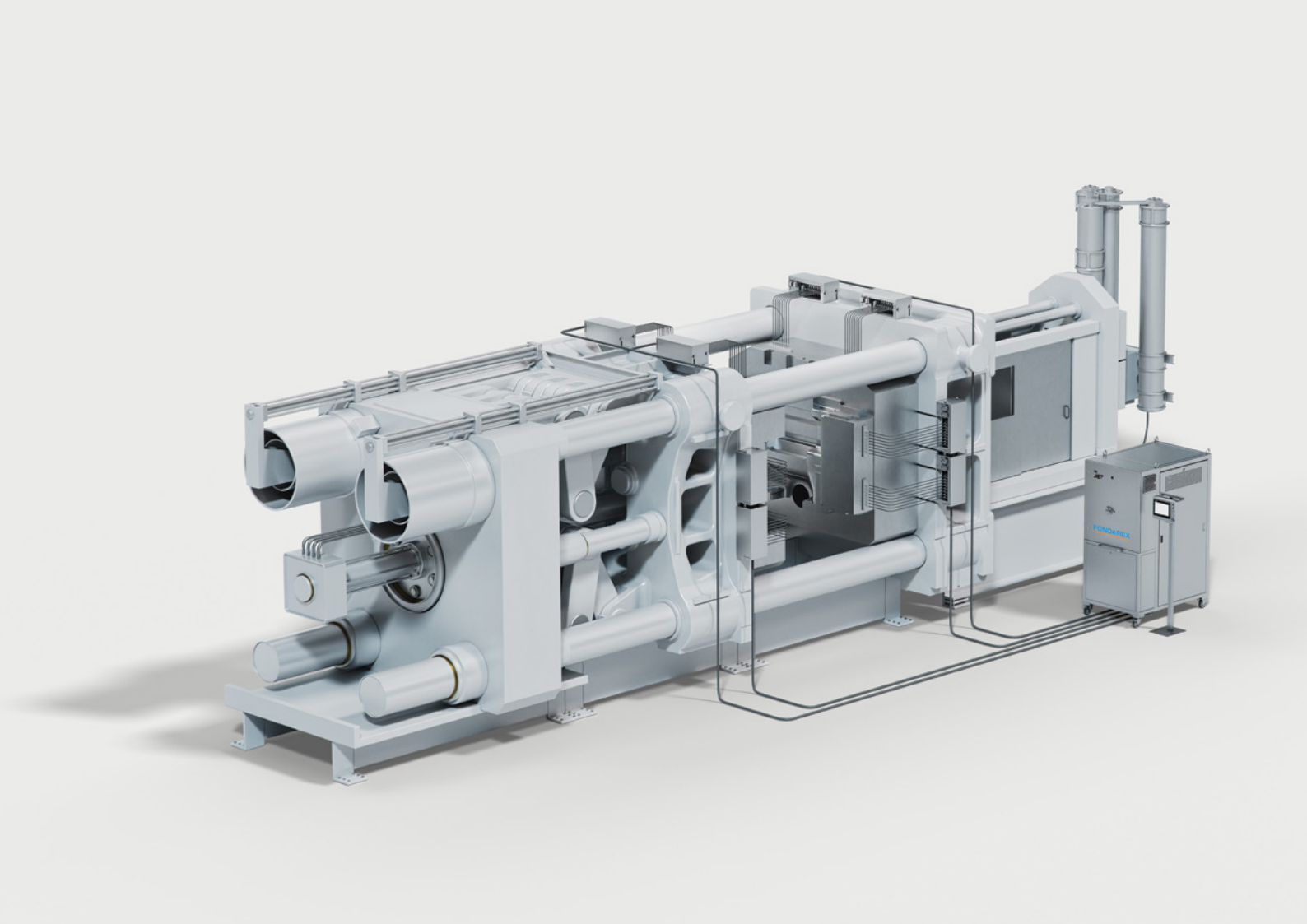
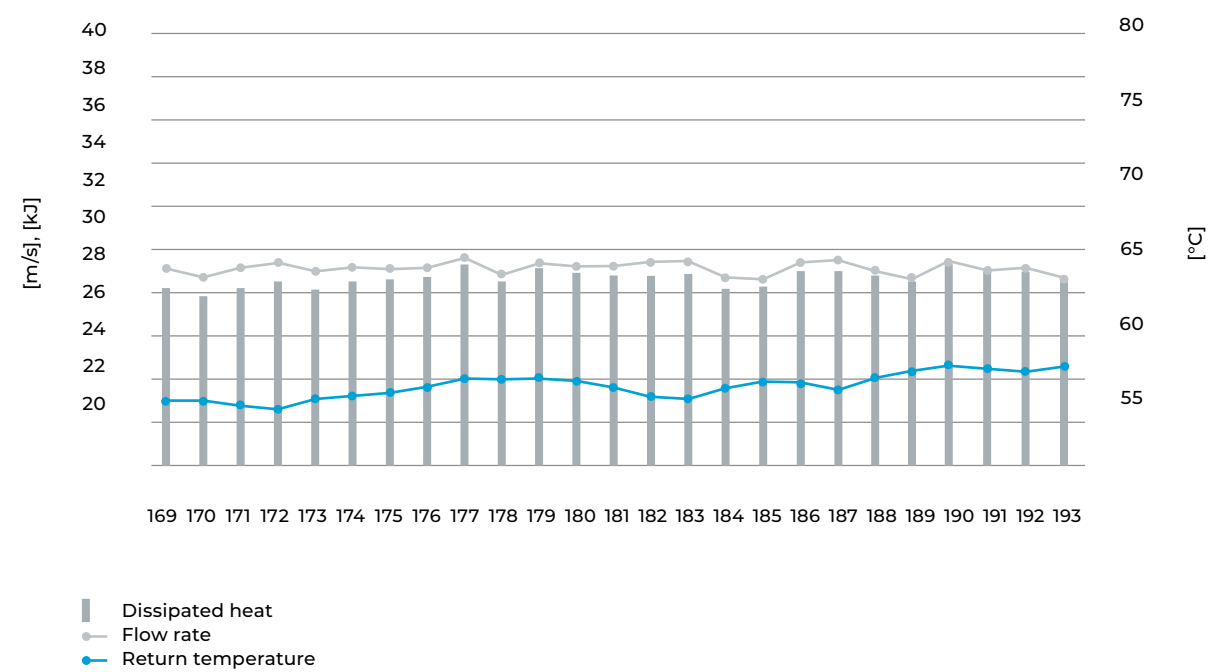
The Fondarex FX JET increases productivity and efficiency in casting processes through a modular and highly controllable cooling system.

One of its key features is its scalable design, allowing expansion from 1 to 8 independent cooling channels and enabling flexible integration into a wide range of applications. The system ensures precise monitoring

and control of the cooling process, resulting in stable performance and high process reliability.

The jet cooling system also offers high reproducibility of cooling capacity and complete traceability of process parameters.

Cycle recording



Features

- Reproducible cooling performance
- Pulsating operation possible
- Flow measurement for each jet nozzle
- Temperature measurement for each jet nozzle
- Display of flow and temperature curves for all jet nozzles
- Determination of the amount of heat dissipated per nozzle and cycle
- Storage of process values in internal memory
- OPC UA interface to external database
- Leak detection
- Fault diagnosis display
- Standby mode
- Reliable pressure supply via frequency-controlled centrifugal pump
- Modular design, from 1 to 8 channels
- With partial monitoring, each jet pin circuit can be divided into up to 3 sub-circuits, allowing up to 192 jet pins to be supplied with the 8C system

FX JET Model 4

This jet and conformal cooling system provides precise control over flow, temperature, and heat dissipation at each jet nozzle.

Reliable water pressure is ensured by an energy-saving, frequency-controlled pump, delivering up to 24 bar and a maximum flow rate of 50 l/min.

The system is available in a mobile configuration with up to 4 movable distribution cabinets, each independently managing up to 8 jet nozzle – for a total of 32.



FX JET Model 8

This jet and conformal cooling system provides precise control over flow, temperature, and heat dissipation at each jet nozzle.

Reliable water pressure is ensured by an energy-saving, frequency-controlled pump, delivering up to 24 bar and a maximum flow rate of 100 l/min.

The system is available in a mobile configuration with up to 8 movable distribution cabinets, each independently managing up to 8 jet nozzle – for a total of 64.



Technical data FX JET Model 4

GENERATION	2026.07
Main circuits / cooling channels / DCABs	1 to 4
Monitored jet nozzles / Micro channels	1 to 32 (8 per channel (DCAB))
Number of nozzles per micro channel	1 to 3
System pressure (from–to)	10–24 bar
Heat transfer medium	Demineralised water
Cooling capacity	30 kW (Nominal)
Max. volume flow	50 l/min
Tank capacity	250 l
Noise level at full load	< 70 dB(A)
HMI	Integrated HMI (Standard)
Fan for main cabinet (MCAB)	Max. 42 °C
MONITORING (HMI-DISPLAY)	
Language (Standard)	EN (US) / EN (UK) / DE / FR / IT / SP / PT / SE / CZ / SK / PL / RO / HU / SL / HR / GR / TR / CN / KR / JP
Process overview display	Yes
Water (tank) temperature	Yes
Return flow temperature	Per micro channel
Flow rate	Per micro channel
Pump pressure	Yes
In-flow water pressure	Per DCAB
Compressed air pressure	Yes
Water conductivity	Yes
Tank fill level	Max. 42 °C
MONITORING (CURVE OVER TIME)	
Return flow temperature	Per micro channel
Flow rate	Per micro channel
RECORDED VALUES	
Storage medium	USB-Stick, OPC-UA
Production data	Yes
Water tank temperature	Yes
Mean water temperature per cycle	Per micro channel
Mean flow rate per cycle	Per micro channel
Extracted heat per cycle	Per micro channel
Cooling duration per cycle	Per DCAB
Temperatur / Flow rate – curves over time	Per micro channel
FEATURES	
Water change	Automatic
Inegrated demineralisation unit	Yes
Leak test	Per DCAB
Pin-break monitoring	Yes
Fault recording	Yes
Pulse operation mode	Optional
Frequency controlled pump	Yes
Stand-by mode for energy saving	Yes
Recipe management	Yes
Automatic / Manual mode switch	Yes
Heat exchanger can be switched on and off	Yes
Pressure drop monitored filter	Yes
Tolerance setting (Per micro channel)	Flow, return temperature, extracted heat

KEY COMPONENTS	
CPU	Siemens
HMI	Siemens 10"
Main pump type	Centrifugal pump, stainless steel, (50 l/min at 24 bar)
By-pass-pump	Immersion pump, stainless steel, (10 l/min at 4 bar)
Flow meters	Vortex (0.5–10 l/min)
Heat-exchanger	Stainless steel
Water tank	Stainless steel
Water conductivity sensor	0.05–1000 µS
Internal field bus technology	I/O-Link
Protection class (MCAB)	IP54
Protection class (DCAB)	IP65
ENVIRONMENTAL CONDITIONS	
Temperature	5–42 °C
Relative air humidity	0–90 % (Not condensing)
Pressurized air	5–6 bar at 3500 l/min
DIMENSIONS [WIDTH X HIGHT X DEPTH] / WEIGHT	
Dimension FX JET MODEL 4	800 x 1780 x 1300 mm
Weight FX JET MODEL 4	570 kg
Dimension DCAB	600 x 260 x 250 mm
Weight DCAB	20 kg
VOLTAGE / CERTIFICATION	
Voltage, max. power consumpti-on (Standard)	3x 400V ± 10 % / 50hz ± 1 %, 8 kW
Voltage, max. power consumpti-on (Optional)	3x 480V ± 10 % / 60hz ± 0,5 %, 10 kW
Max. current	32 A
Certification	CE (Standard) / UL (Optional)
CONNECTORS / FITTINGS	
Compressed air	1/2"
Cooling water	3/4"
DCAB – MCAB (Water)	1/2"
DCAB – MCAB (Pressurized air)	1/2"
Tank – Water drain	1/2"
Tank – Water supply	1/2"
OPTIONS	
DCAB with 8 monitored micro channels	Optional
DCAB without micro channel monitoring	Optional
DCAB MANIDRIVE with flow rate and pressure monitoring	Optional
DCAB MANIDRIVE without monitoring	Optional
Profinet interface to DCM	Optional
Profibus interface to DCM	Optional
Anybus	Optional
Advanced communication	Optional
HMI remote panel	Optional
Type of HMI Wein View	10" (Optional) 20" (Optional)
Indicator light tower deported	Optional
Remote assistance EWON	Optional
Compressed air regulator	Optional
Air conditioner	Optional
Maintenance set	Optional

Technical data FX JET Model 8

GENERATION	2026.07
Main circuits / cooling channels / DCABs	1 to 8
Monitored jet nozzles / Micro channels	1 to 64 (8 per channel (DCAB))
Number of nozzles per micro channel	1 to 3
System pressure (from–to)	10–24 bar
Heat transfer medium	Demineralised water
Cooling capacity	30 kW (Nominal)
Max. volume flow	2 x 50 l/min
Tank capacity	250 l
Noise level at full load	< 70 dB(A)
HMI	Integrated HMI (Standard)
Fan for main cabinet (MCAB)	Max. 42 °C
MONITORING (HMI-DISPLAY)	
Language (Standard)	EN (US) / EN (UK) / DE / FR / IT / SP / PT / SE / CZ / SK / PL / RO / HU / SL / HR / GR / TR / CN / KR / JP
Process overview display	Yes
Water (tank) temperature	Yes
Return flow temperature	Per micro channel
Flow rate	Per micro channel
Pump pressure	Yes
In-flow water pressure	Per DCAB
Compressed air pressure	Yes
Water conductivity	Yes
Tank fill level	Max. 42 °C
MONITORING (CURVE OVER TIME)	
Return flow temperature	Per micro channel
Flow rate	Per micro channel
RECORDED VALUES	
Storage medium	USB-Stick, OPC-UA
Production data	Yes
Water tank temperature	Yes
Mean water temperature per cycle	Per micro channel
Mean flow rate per cycle	Per micro channel
Extracted heat per cycle	Per micro channel
Cooling duration per cycle	Per DCAB
Temperatur / Flow rate – curves over time	Per micro channel
FEATURES	
Water change	Automatic
Inegrated demineralisation unit	Yes
Leak test	Per DCAB
Pin-break monitoring	Yes
Fault recording	Yes
Pulse operation mode	Optional
Frequency controlled pump	Yes
Stand-by mode for energy saving	Yes
Recipe management	Yes
Automatic / Manual mode switch	Yes
Heat exchanger can be switched on and off	Yes
Pressure drop monitored filter	Yes
Tolerance setting (Per micro channel)	Flow, return temperature, extracted heat

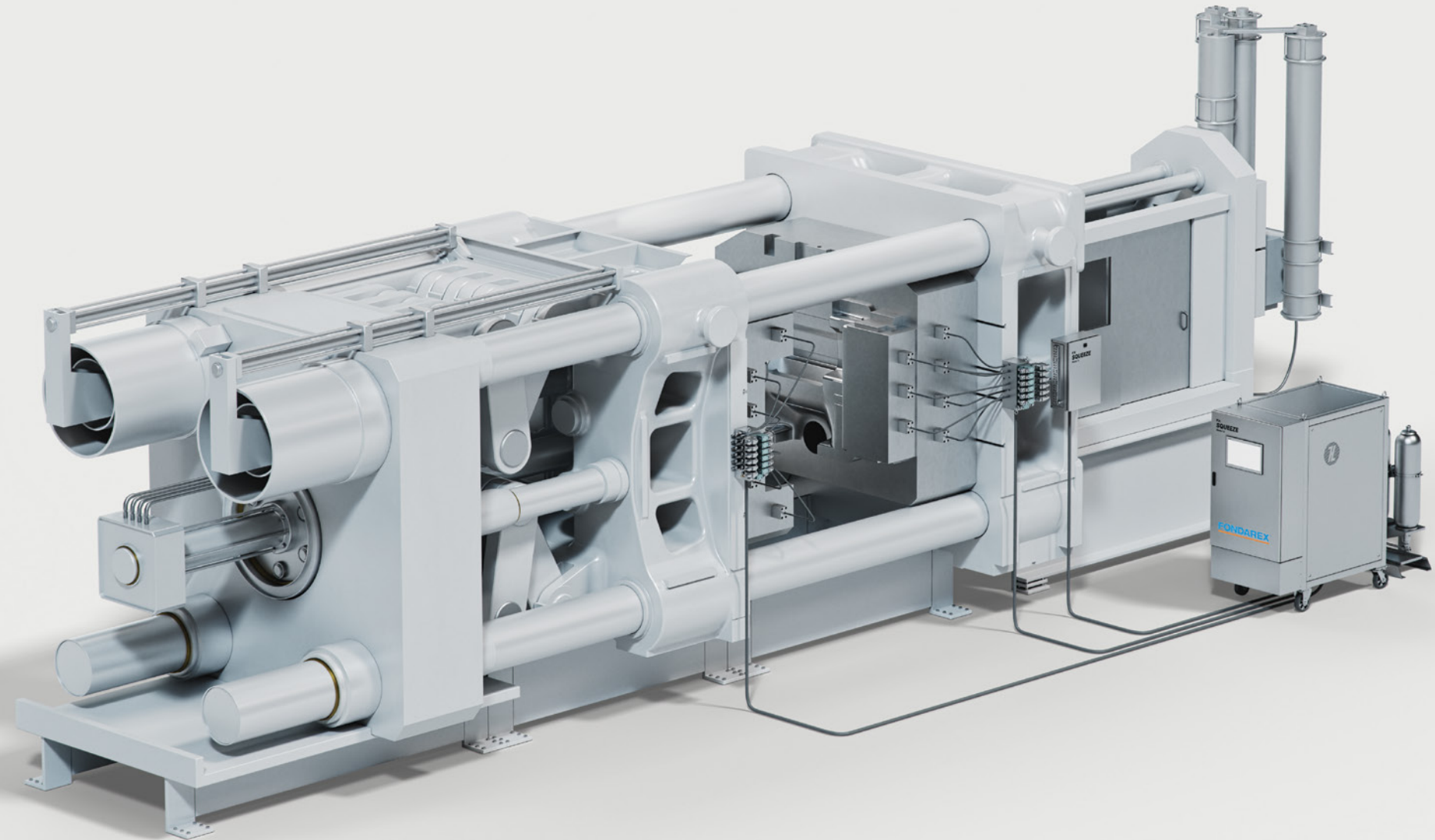
KEY COMPONENTS	
CPU	Siemens
HMI	Siemens 10"
Main pump type	2 x Centrifugal pump, stainless steel, (50 l/min at 24 bar)
By-pass-pump	Immersion pump, stainless steel, (10 l/min at 4 bar)
Flow meters	Vortex (0.5–10 l/min)
Heat-exchanger	Stainless steel
Water tank	Stainless steel
Water conductivity sensor	0.05–1000 µS
Internal field bus technology	I/O-Link
Protection class (MCAB)	IP54
Protection class (DCAB)	IP65
ENVIRONMENTAL CONDITIONS	
Temperature	5–42 °C
Relative air humidity	0–90 % (Not condensing)
Pressurized air	5–6 bar at 3500 l/min
DIMENSIONS [WIDTH X HIGHT X DEPTH] / WEIGHT	
Dimension FX JET MODEL 8	800 x 1780 x 1300 mm
Weight FX JET MODEL 8	570 kg
Dimension DCAB	600 x 260 x 250 mm
Weight DCAB	20 kg
VOLTAGE / CERTIFICATION	
Voltage, max. power consumpti-on (Standard)	3x 400V ± 10 % / 50hz ± 1 %, 8 kW
Voltage, max. power consumpti-on (Optional)	3x 480V ± 10 % / 60hz ± 0,5 %, 10 kW
Max. current	32 A
Certification	CE (Standard) / UL (Optional)
CONNECTORS / FITTINGS	
Compressed air	1/2"
Cooling water	3/4"
DCAB – MCAB (Water)	1/2"
DCAB – MCAB (Pressurized air)	1/2"
Tank – Water drain	1/2"
Tank – Water supply	1/2"
OPTIONS	
DCAB with 8 monitored micro channels	Optional
DCAB without micro channel monitoring	Optional
DCAB MANIDRIVE with flow rate and pressure monitoring	Optional
DCAB MANIDRIVE without monitoring	Optional
Profinet interface to DCM	Optional
Profibus interface to DCM	Optional
Anybus	Optional
Advanced communication	Optional
HMI remote panel	Optional
Type of HMI Wein View	10" (Optional) 20" (Optional)
Indicator light tower deported	Optional
Remote assistance EWON	Optional
Compressed air regulator	Optional
Air conditioner	Optional
Conformal cooling	Optional
Maintenance set	Optional

Adaptive alloy feeding for demanding die casting

The FX SQUEEZE is the ideal complement to FX VAC and FX JET for improving casting quality and process stability.

The system enables targeted local feeding of the alloy during solidification and helps reduce or eliminate shrinkage-related defects in critical casting areas.

Each squeeze cylinder can be individually controlled, ensuring flexible and precise adaptation to the specific requirements of the casting process. This results in a highly adaptable and robust solution for demanding die casting applications.



SQUEEZE

Features

- Independent of the hydraulic system of the die casting machine
- Individual control of each squeeze cylinder, up to 12 (start time, force, pressure ramp, and holding time until retraction are fully adjustable)
- Adjustable ramp-shaped force increase for each cylinder
- Real-time display of process parameters
- Display of pressure curves for all channels
- Measurement of achieved squeeze stroke
- Visualization of process values
- Storage of process data in internal memory
- OPC UA interface to external database

Technical data FX SQUEEZE Model 12

GENERATION	2026.07
Mobile configuration	Yes
Cylinder control blocks	1 to 4
Squeeze cylinder	1 to 12
System pressure	30 – 320 bar
Hydraulic medium	Water-glycol
Pump capacity	11 kW
Cooling capacity	3 kW
Tank volume	100 l
Accumulator volume	40 l
Noise emission	< 70 dB(A)
Max. ambient temperature	42°C
MONITORING (HMI MONITOR)	
Languages	EN/DE
Process overview	Yes
Oil temperature	Yes
Working pressure (real time)	Per squeeze cylinder
Return pressure (real time)	Per squeeze cylinder
Cylinder stroke	For cylinders with stroke measurement system
MEASUREMENT RECORDING	
Medium	OPC/UA
Production data	Yes
Start time	Per squeeze cylinder
End time	Per squeeze cylinder
Achieved stroke	For cylinders with stroke measurement system
MEASURED VALUES (CURVES OVER TIME)	
Pressure curves	Per squeeze cylinder
Squeeze stroke curve	For cylinders with stroke measurement system
Return pressure	Per squeeze cylinder
RECOMMENDED APPLICATION RANGE	
Squeeze pin diameter	4 – 40 mm
Squeeze stroke	Up to 40 mm
Squeeze pressure (in the metal)*	400 – 4000 bar

COMPONENTS	
CPU	Bosch-Rexroth
HMI touch screen	Bosch Rexroth (17")
Hydraulic pump	External gear pump
Pump control	Frequency-controlled
Hydraulic tank	Stainless steel
Internal fieldbus	I/O Link
Protection class (control blocks)	IP65
Protection class (unit)	IP54
AMBIENT CONDITIONS	
Temperature	5 – 42°C
Air humidity	0 – 90% (non-condensing)
DIMENSIONS [WIDTH X HIGHT X DEPTH]	
Unit	800 x 1700 x 1400 mm ³
Control blocks	300 x 410 x 320 mm ³
Electrical cabinet	400 x 600 x 210 mm ³
Accumulator	600 x 1320 x 400 mm ³
MEDIA CONNECTIONS	
Power supply	3 x 400 V 32 A 50 Hz
Cooling water	22 l
ADJUSTABLE PROCESS PARAMETERS	
Squeeze start	Per squeeze cylinder
Squeeze pressure	Per squeeze cylinder
Pressure rise time	Per squeeze cylinder
Progressive pressure profile	Per squeeze cylinder
Degressive pressure profile	Per squeeze cylinder
Pressure holding time	Per squeeze cylinder
Return force	Per squeeze cylinder
INTERFACE	
Profinet	Yes
Cable interface	Optional

FX
SQUEEZE
Model 12

The ideal complement to FX VAC and FX JET for reducing shrinkage porosity inside the casting. The FX SQUEEZE can control and operate up to 12 independent squeeze cylinders to locally feed alloy shrinkage during solidification.







Technical data Steel Vents

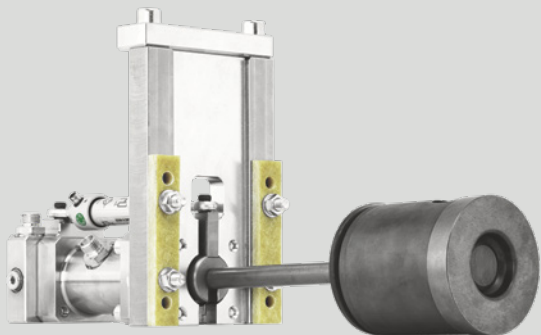
MODEL	SCCZ 12-1		SCS 30-1		SCS 60-1		SCS 100-1		SCS 140-1	
Section [mm²]	12		30		60		100		140	
DCM tonnage [t]	< 200 approx.		< 400 approx.		200 – 1200		800 – 2800		1600 – 4500	
Shot weight Al [kg]	/		0.1 – 1.5		0.7 – 10		5 – 22		10 – 40	
Shot weight Mg [kg]	0.05 – 0.8		0.07 – 1		0.5 – 6		3 – 12		6 – 26	
Shot weight Zn [kg]	0.1 – 3		0.2 – 4		1 – 20		/		/	
Dimensions	A	B	C	D	E	F	G	H	I	J
Width [mm]	63	63	63	63	100	100	140	140	150	150
Depth [mm]	63.4	63.5	50	50	50	50	60	60	80	80
Height [mm]	100	99	150	149	250	249	300	299	360	359

* Larger evacuation sections available on request.



Technical data Kinetic Valves

MODEL	KINETIC VALVE 12		KINETIC VALVE 40/25		KINETIC VALVE 100 / 75		KINETIC VALVE 300 / 200	
Profile [mm²]	12		25 40		75 100		200 300	
DCM tonnage [t]	20 – 200		80 – 800		200 – 2000		1200 – 6000	
Shot weight [kg]	ZN 0.1 – 2		ZN 0.2 – 8 AL 0.2 – 5		ZN 0.8 – 14 AL 0.6 – 15		AL 7 – 50	
Dimensions	A	B	C	D	E	F	G	H
Width [mm]	40	40	55	55	100	100	125	125
Depth [mm]	44	20	50	25	75	50	95.5	57.5
Height [mm]	50	50	65	65	125	125	175	175



Technical data Hydraulic Valve

MODEL	MOLD VACUUM VALVE (A)		
Section [mm²]	300		
DCM tonnage [t]	6000		
Shot weight [kg]	AL 7 – 50		
Vacuum valve body dimensions [mm]	80ø x 95		
Vacuum valve body attachment	4 x M8 90 x 50		
Vacuum piston rod diameter [mm]	Up to 900		
Diameter vacuum piston rod [mm]	20 ø		
MODEL	HYDRAULIC CYLINDER WITH COUPLING (B)	MANIFOLD	ELECTRICAL CABINET
Length [mm]	187	266	400
Width [mm]	110	139	210
Height [mm]	200	268	300

FX
JET
Nozzles

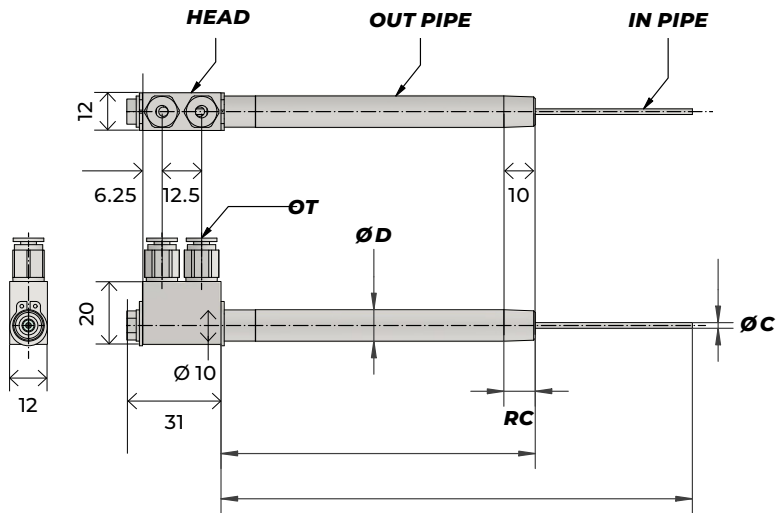


The jet nozzles from Fondarex, produced in collaboration with Wonjin, are distinguished by their material quality, precision manufacturing, and long-term process stability.

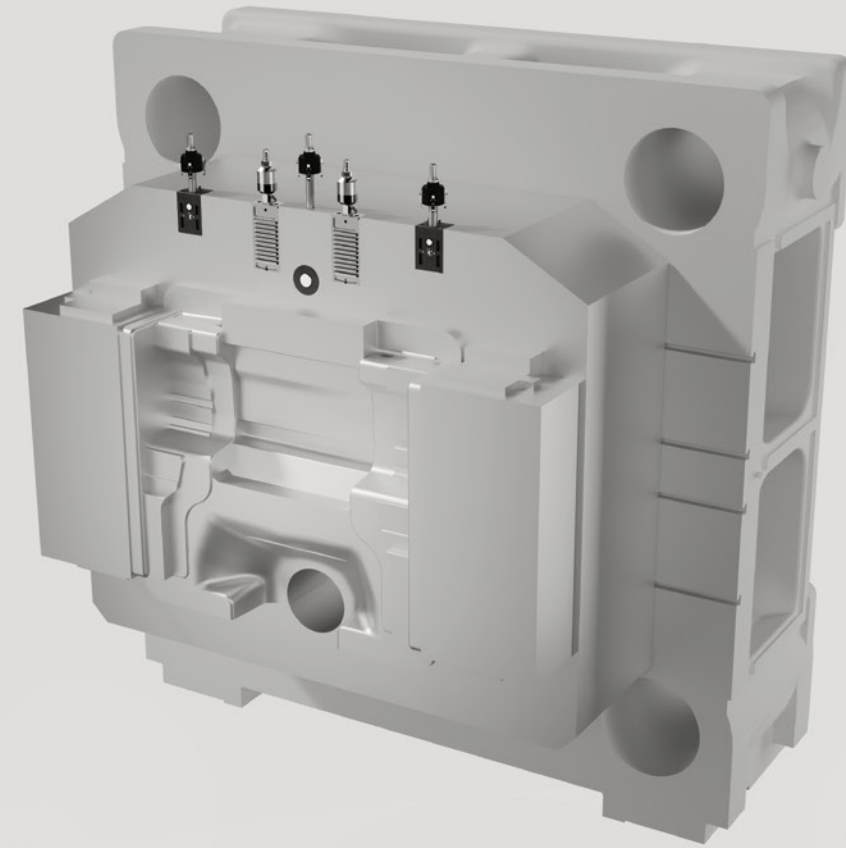
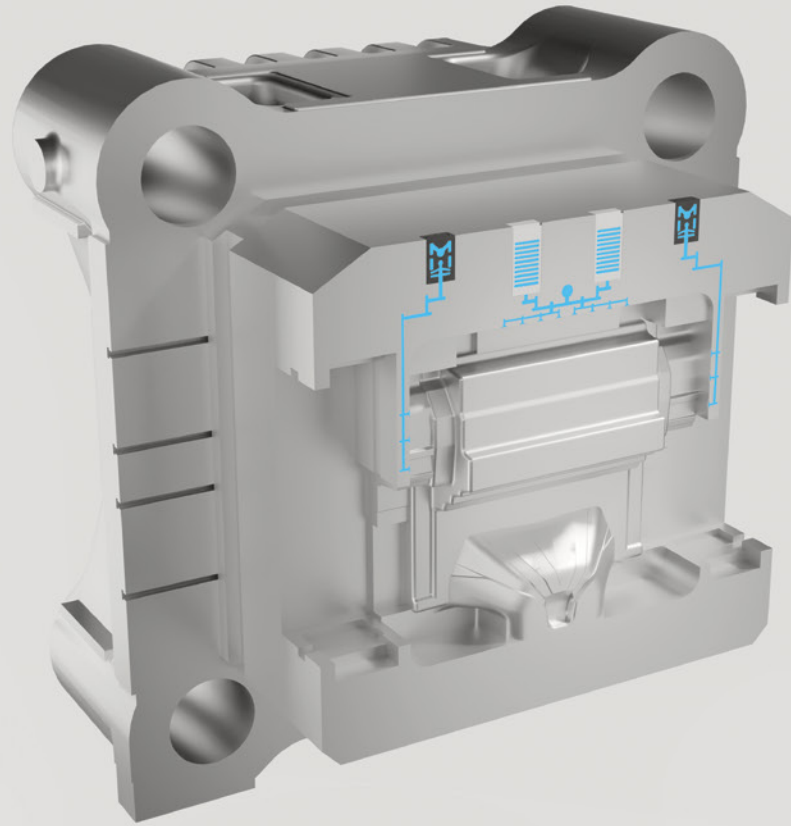
These stainless steel jet nozzles offer high durability, precise and stable cooling performance, corrosion resistance, and low maintenance requirements, making them well-suited for demanding die casting jet cooling applications where process consistency is critical.



Technical data FX JET Nozzles



TYPE		DRC	
Order code	DRC - RC - A - B - C - OT		
Example	DRC - PT1/8 - 100 - 150 - 1,8 - D6		
RC	DIAMETER OUT PIPE	DIAMETER IN PIPE	
M4	D4 x 1	D1,2	
M6	D6 x 1,5	D1,2 D1,8 D2,0	
M8	D8 x 1,5	D1,2	
PT 1/16	D8 x 1,5	D1,8	
M10	D10 x 2	D2,0	
PT 1/8	D10 x 2	D2,3	
		D3,0	
MATERIAL			
IN PIPE	1.4301 SUS304		
OUT PIPE	1.4301 SUS304		
HEAD	1.4301 SUS304		
FITTING ONE TOUCH (OT) - PUSH-IN			
None (PT1/8")			
D4			
D6			



OUR EXPERTISE

Channel design

Vacuum application studies are essential for achieving optimal integration of vacuum technology into die-casting processes. Proper channel design ensures efficient air evacuation, stable process conditions, and consistent part quality.

With over 5,000 successful projects, Fondarex is a leading specialist in vacuum channel design, supporting customers in developing highly efficient and reliable vacuum solutions tailored to their applications.

AT YOUR SERVICE

Technical support

Fondarex provides fast and efficient technical service through its team of engineers, supporting production sites worldwide. With a strong international presence, Fondarex maintains close relationships with its customers to ensure reliable and responsive assistance.

Fondarex also offers maintenance contracts, retrofit services for existing systems, software upgrades, and technical training. This comprehensive support helps ensure maximum productivity from vacuum systems, jet cooling systems, or squeeze systems, providing a clear competitive advantage.

Remote assistance

Our experts provide real-time instructions and guidance to support faster troubleshooting and efficient problem resolution. Fondarex remote assistance ensures immediate technical support, helping customers minimize downtime and maintain stable, high-quality production performance.

Training

Fondarex regularly organizes training sessions on vacuum, jet cooling, and squeeze technologies.

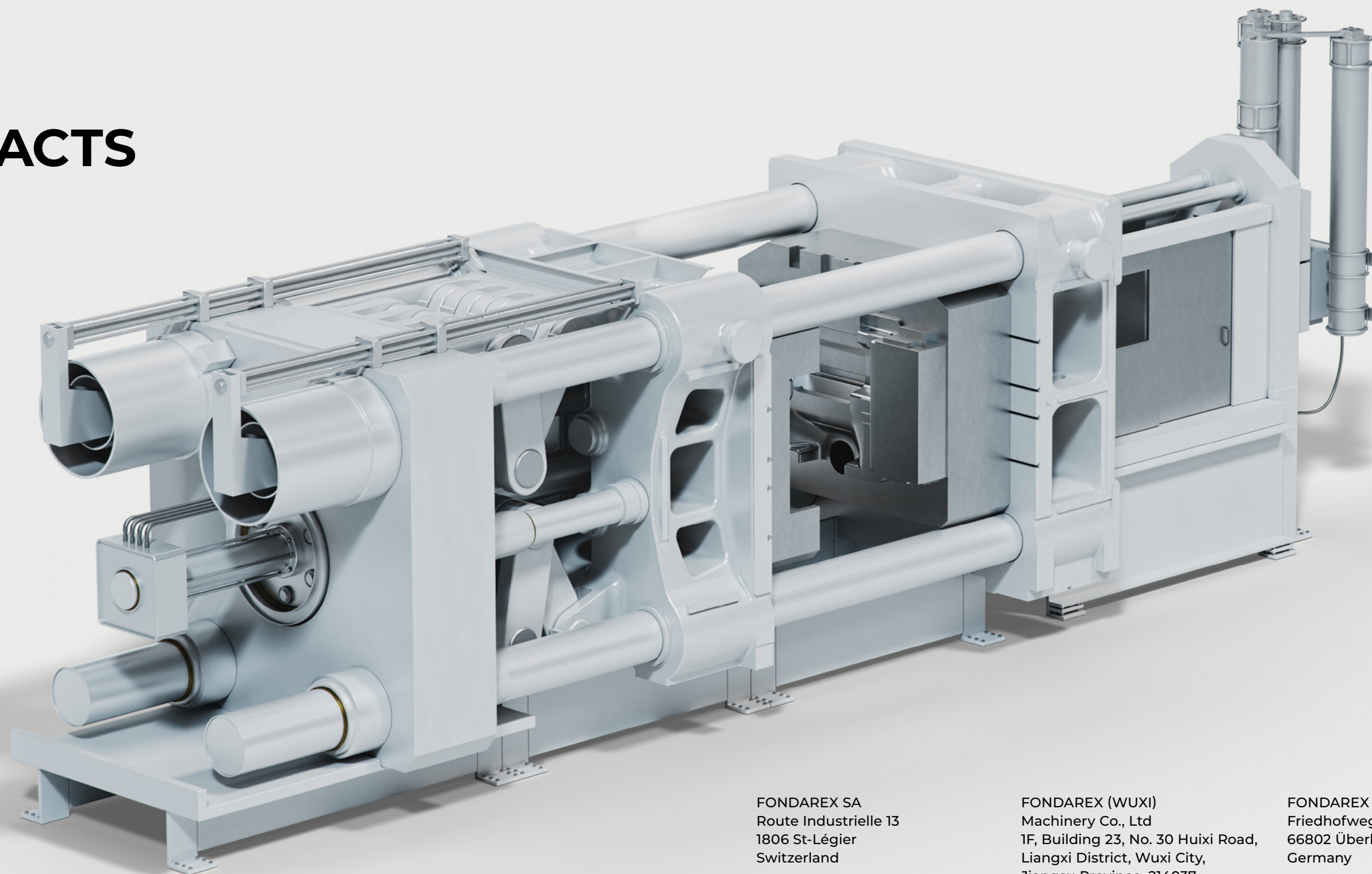
These training programs are tailored to the needs and interests of participants, whether operators, service technicians, engineers, or managers. Sessions can be conducted either on-site or at Fondarex facilities, ensuring flexible and practical learning opportunities.



REPRESENTATIVES

AUSTRIA FONDAREX EUROPE GMBH Stefan Jenal	PORTUGAL CONIEX S.A. António Aguiar	UNITED STATES (IN, KY, MI, OH, NC, PA, SC, TN) RICHARDSON SALES LTD. John Pierson
BULGARIA TECHNOCOMMERCE ENG. OOD Stanimir Iliev	ROMANIA SC LIXLAND SRL Mihai Lixandra	UNITED STATES (IA, IL, MN, MO, ND, SD, WI) FERRELL METALCASTING SOLUTIONS Doug Ferrell
CZECH REP. HYDAC SPOL. S R.O. Miloslav Mares	SCANDINAVIA SWISSTEC SKANDINAVIEN Bob Schuler	CHINA FONDAREX (WUXI) MACHIN- ERY CO., LTD. Markus Winter
ENGLAND FENCO-ALDRIDGE (BARTON) LTD. Simon Hinson	SLOVENIA TC LIVARSTVO D.O.O. Sebastjan Kastelic	INDIA ULTRASEAL (INDIA) PVT. LTD. Ashay Shastri
GERMANY (NORTH) FIMRO GMBH Matthias Mrochen	SPAIN CONIEX S.A. António Aguiar	JAPAN YAMADA GUSS TECHNIK, LLC Hiroshi Yamada
GERMANY (SOUTH) FONDAREX EUROPE GMBH Stefan Jenal	TURKEY METEK LTD. STI Levent Çakmakçi	REP. OF KOREA KAMCO CO., LTD. Yangwon Choi
GREECE PROCHEM CO Theodore Papakostas	ARGENTINA Héctor Lértora	THAILAND M5 ENGINEERING (THAILAND) CO., LTD. Jan Wuethrich
ITALY FONDAREX SA, Maurizio Fuccelli	BRAZIL HEATING PARTS COMÉRCIO DE PEÇAS LTDA. Miguel Abate	
POLAND CAST METAL Andrzej Fidler	MEXICO Staufer Die Casting México S. de RL de C.V. Pablo Vargas	

CONTACTS



FONDAREX SA
Route Industrielle 13
1806 St-Légier
Switzerland

T +41 21 943 00 00
info@fondarex.com

FONDAREX (WUXI)
Machinery Co., Ltd
1F, Building 23, No. 30 Huixi Road,
Liangxi District, Wuxi City,
Jiangsu Province, 214037
PR of China

T +86 510 8868 8802
info@fondarex.com

FONDAREX EUROPE GMBH
Friedhofweg 13a
66802 Überherrn
Germany

+49 152 23609421
info@fondarex.com



Visit us