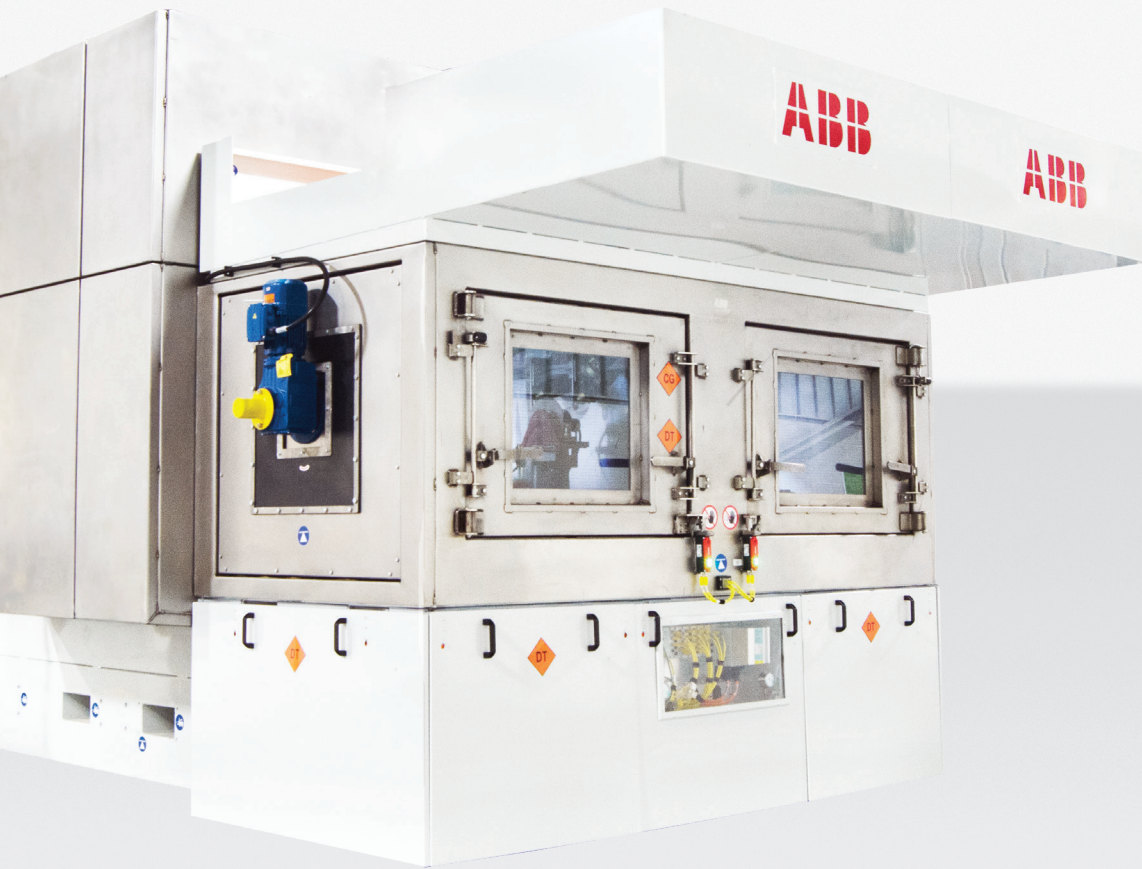




ABB Ltd.

1250 Brown Road
Auburn Hills, MI 48267
United States

new.abb.com/products/robotics/flexwasher



W60 FlexWasher

Manufacturing Solutions – Powertrain

FlexWasher System Portfolio

W60 FlexWasher Overview

The FlexWasher™ technology combines the durability of a single ABB Foundry Prime2 robot and industry proven part cleaning methods integrated into a complete system. The technology is based on a common platform capable of handling unique part types with varying size and complexity in geometry.

The part is processed using precise movements to achieve the optimal level of cleanliness via work piece specific programs. Applications include Part washing/deburring.

ABB FlexWasher Advantages

- Global foot print
- Proven performance (transmission/engine)
- FlexWasher™ is a Global solution (i.e. CE certification)
- 209 FlexWashers in 12 different countries
- Facilities/execution team (large/small programs)
- Pre-engineered solution/process optimized to produce consistent results with a focus on aggressive delivery schedules
- Engineering, machine construction, robot solution, shipping
- Proven continuous improvement system
- 2013 VAVE Award
- Controls system focused on operator independence
- Documentation for maintenance and operation
- Global customer service network
- No heated water – minimal detergent solution
- Lower operating and maintenance cost
- Unsurpassed cleaning results
- High reliability through equipment simplicity
- Standard solutions with robotic flexibility
- Complete process solution with ABB

Safety Features

- ABB SafeMove™
- Controls reliable safety circuit
- Controls reliable high pressure system protection
- CE certification capable

Industry Includes

Automotive / Aerospace

- Engine Blocks
- Cylinder Heads
- Crankshafts
- Transmission Cases
- Valve Bodies
- Axle Housings
- Axle Tubes
- Stator

Global Offering

- ABB (Industrial Foundry Prime2 Robot)
- ABB Baldor (high pressure pump motor)
- Siemens (electrical system)
- FESTO (pneumatics system)
- Hammelmann (high pressure system)
- SEW (mechanical drive devices)
- THK (bearing assemblies)
- Brinkmann (fluid pumps)
- Parker (hosing and fittings)
- Pilz and Euchner (safety devices)
- Busch (vacuum pump)

Shipping

- North American shipping, single truck, double drop down.
- Trans-oceanic shipping, two (2) shipping containers per machine
- Largest component 12000 kg, LxWxH 5.5 m x 2.3 m x 2.5 m
- Configurable design is friendly for existing as well as new installation facilities



W60 FlexWasher

Technical Data Overview

High Pressure System

Applicable to Machining Final Wash Models Only

- Volume: approx. 55 lpm
- Pressure: 135 bar–600 bar, application dependent
- Pump Manufacturer: Hammelmann
- Motor Manufacturer: Baldor 37 kW

Machining Intermediate Wash Model Features

- 10-30 bar pressure.

Equipment Specifications

- Pneumatic load: 4 bar required (5 bar recommended)
- 1.5 in. in-feed hard pipe line recommended
- Extraction: Approx. 3200 m³/h

Work Pieces Specifications

- L x W x H: 1000 mm x 750 mm x 750 mm
- Work piece and tool weight: 235 kg
- Throughput: 60 pieces / hr approx.
- Exit temperature: ambient to 15°C above ambient, application dependent
- Noise Level: 80 dB (a), 77 dB(a) option available
- Lubrication: manual
- Pre-rinse/floor rinse: Approx. 150 lpm @ 5.5 bar

Detergents with rust preventatives (PR)

- See ABB approved list
- Testing process exists for chemicals not currently on ABB approved list.

Filtration, Local:

- Incoming fluid: potable city water 4 bar
- Volume, total: approx. 1325 L
- Media: disposable, roll and #2 bags
- Media final filtration: 10-25 micron nominal recommended

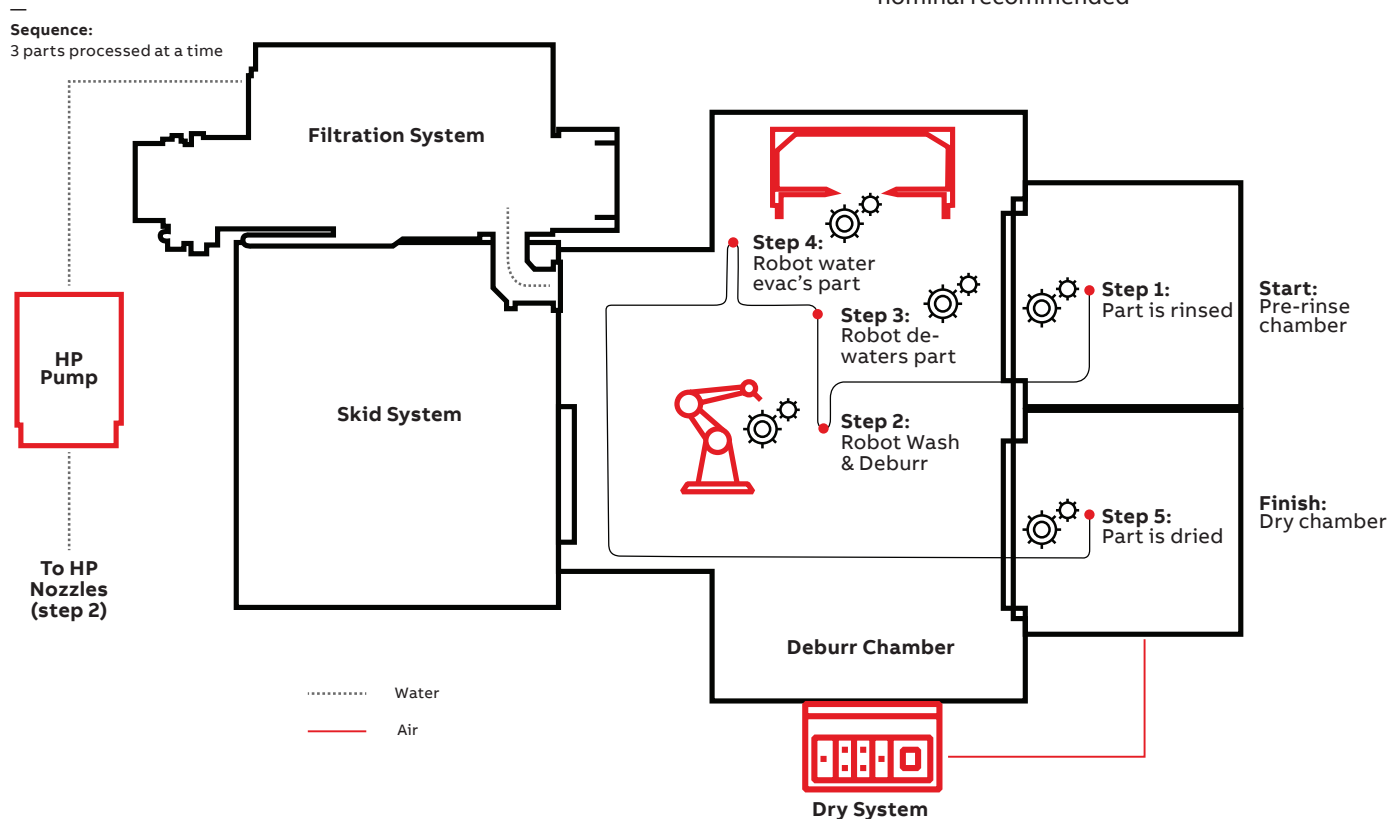
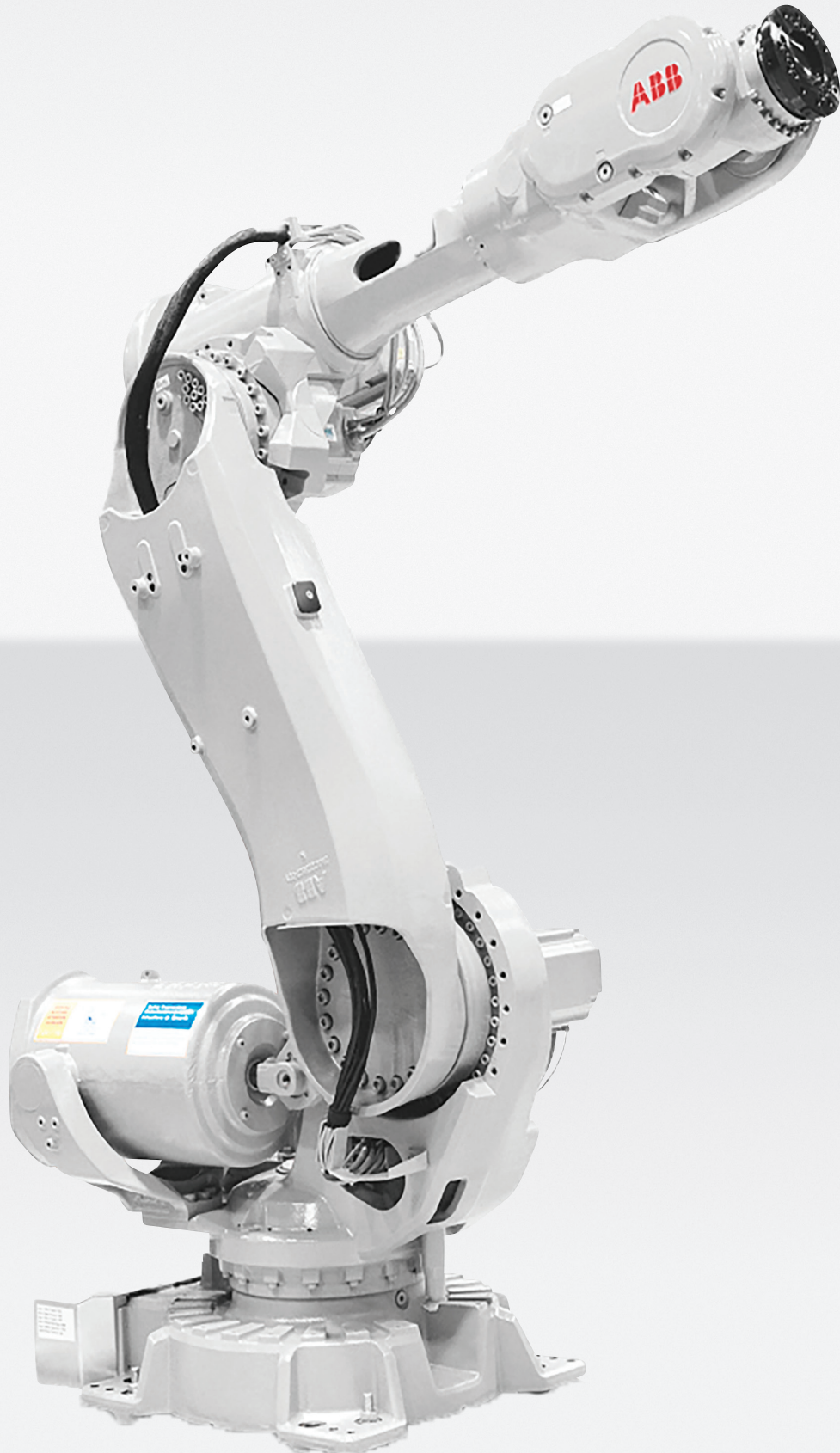


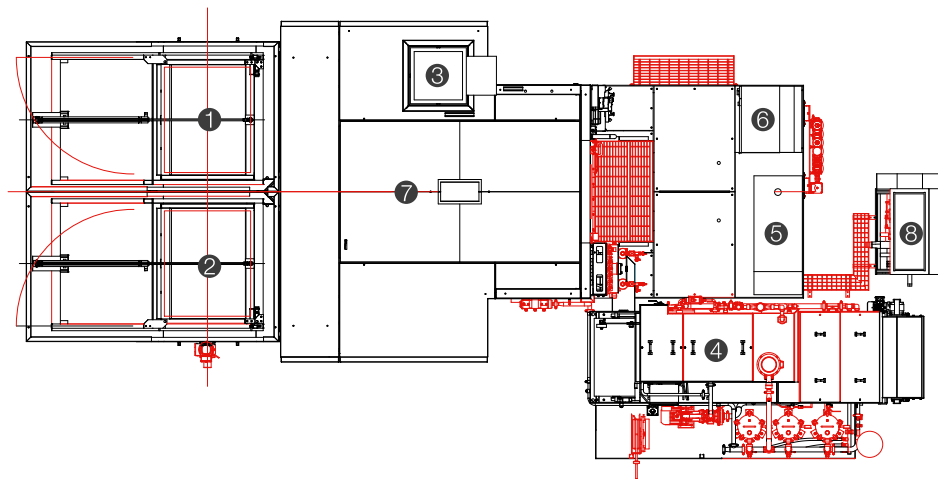
ABB FLEXWASHER

Unparalleled cleanliness with robotic precision



W60 FlexWasher Models

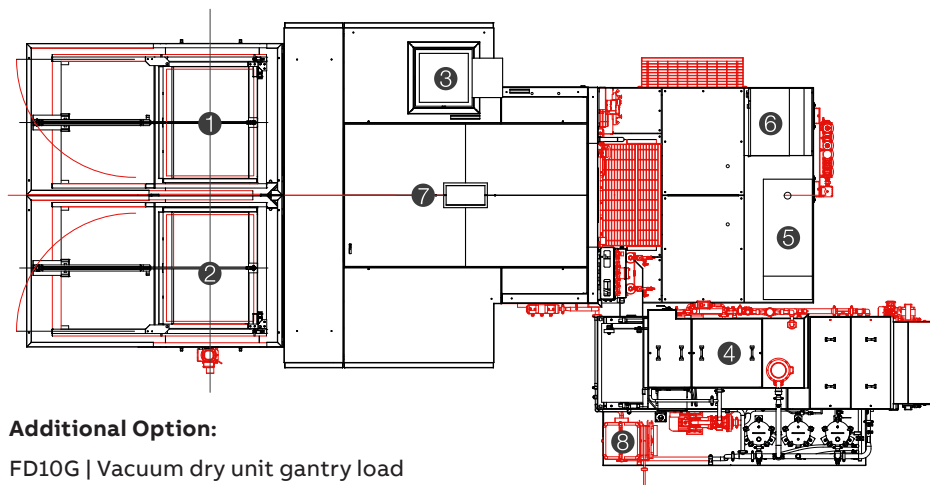
FW60GF MACHINING FINAL WASH
Gentry Load | Robot holds part | W60 series



- ① Pre-Rinse chamber
- ② Dry Chamber
- ③ Mist Collection
- ④ Filtration System
- ⑤ Main Electrical Panel
- ⑥ IRC5 Robot Controller
- ⑦ IRB6640-2:55/235 FP2 Robot
- ⑧ HP Pump

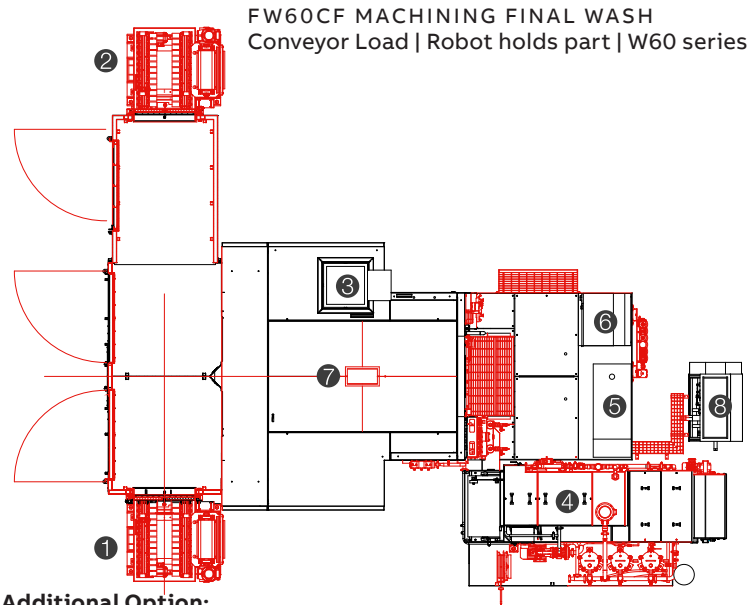
Additional Option:
FD10G | Vacuum dry unit gantry load

FW60GI MACHINING INTERMEDIATE WASH
Gentry Load | Robot holds part | W60 series



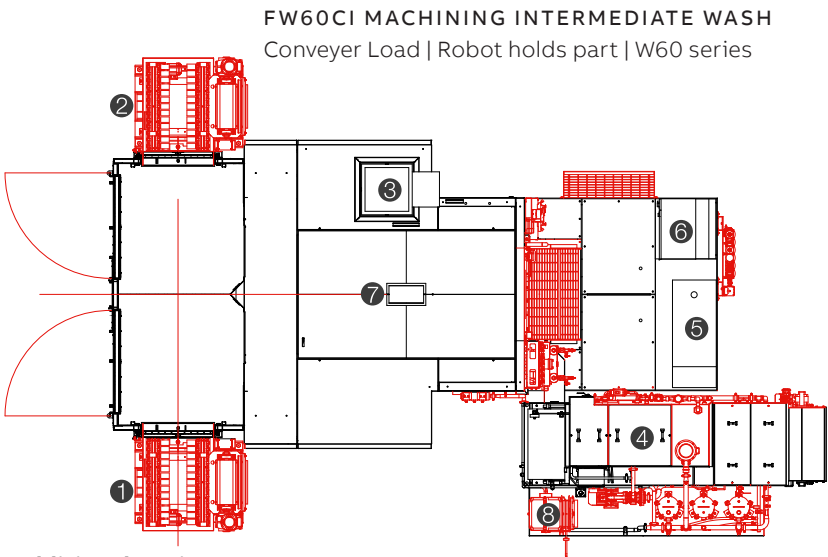
- ① Pre-Rinse chamber
- ② Dry Chamber
- ③ Mist Collection
- ④ Filtration System
- ⑤ Main Electrical Panel
- ⑥ IRC5 Robot Controller
- ⑦ IRB6640-2:55/235 FP2 Robot
- ⑧ MP Pump

Additional Option:
FD10G | Vacuum dry unit gantry load



Additional Option:
FD10C | Vacuum dry unit with conveyor load

- ① Load Automation
- ② Unload Automation
- ③ Mist Collection
- ④ Filtration System
- ⑤ Main Electrical Panel
- ⑥ IRC5 Robot Controller
- ⑦ IRB6640–2:55/235 FP2 Robot
- ⑧ HP Pump

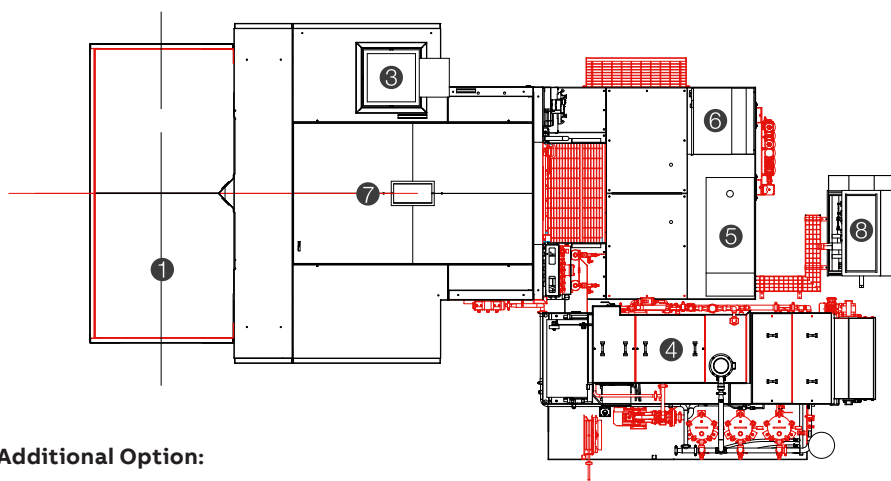


Additional Option:
FD10C | Vacuum dry unit with conveyor load

- ① Load Automation
- ② Unload Automation
- ③ Mist Collection
- ④ Filtration System
- ⑤ Main Electrical Panel
- ⑥ IRC5 Robot Controller
- ⑦ IRB6640–2:55/235 FP2 Robot
- ⑧ MP Pump

FW60RF MACHINING FINAL WASH

Robot Load | Robot holds part | W60 series



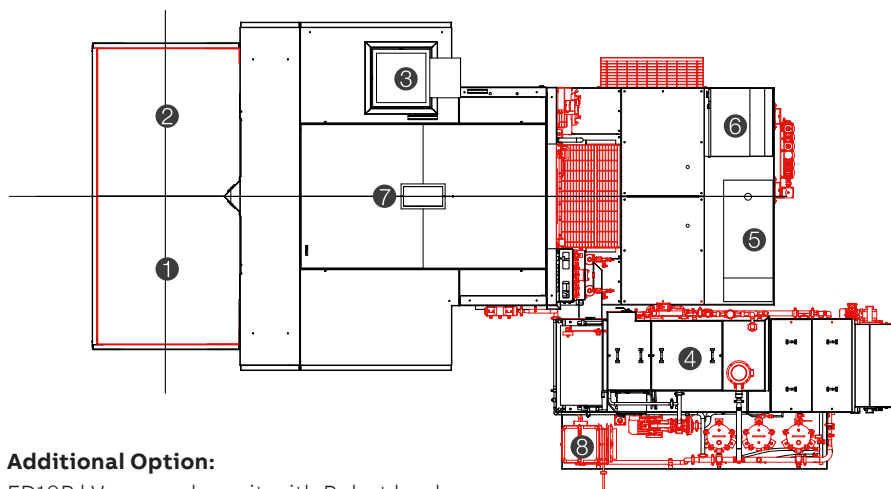
- ① Pre-Rinse chamber
- ② Dry Chamber
- ③ Mist Collection
- ④ Filtration System
- ⑤ Main Electrical Panel
- ⑥ IRC5 Robot Controller
- ⑦ IRB6640-2:55/235 FP2 Robot
- ⑧ HP Pump

Additional Option:

FD10R | Vacuum dry unit with Robot load

FW60RI MACHINING INTERMEDIATE WASH

Robot Load | Robot holds part | W60 series



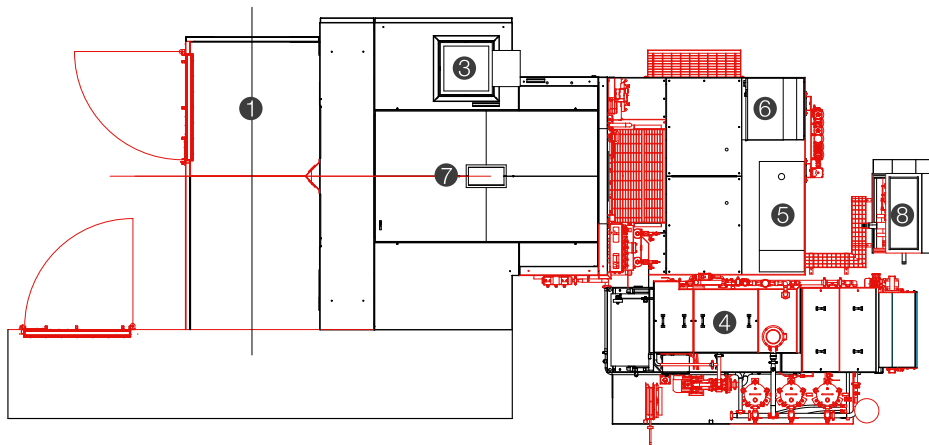
- ① Pre-Rinse chamber
- ② Dry Chamber
- ③ Mist Collection
- ④ Filtration System
- ⑤ Main Electrical Panel
- ⑥ IRC5 Robot Controller
- ⑦ IRB6640-2:55/235 FP2 Robot
- ⑧ MP Pump

Additional Option:

FD10R | Vacuum dry unit with Robot load

FW60MF MACHINING FINAL WASH

Manual Load | Robot holds part | W60 series

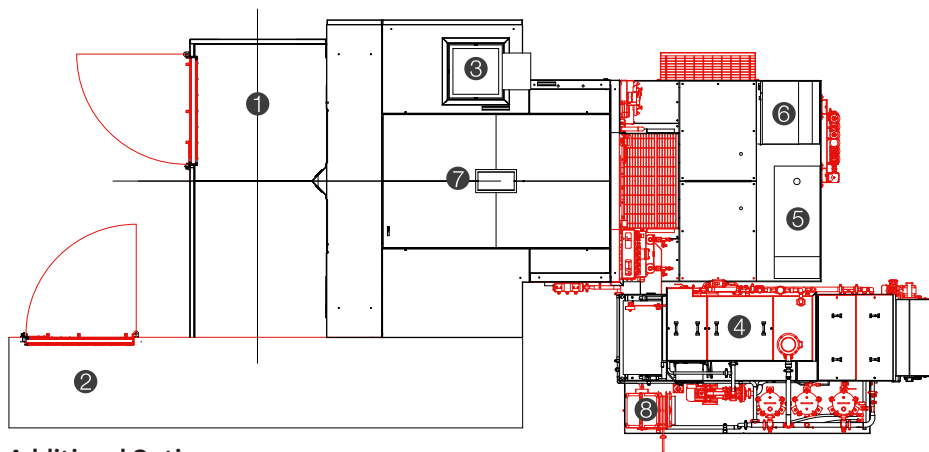
**Additional Option:**

FD10M | Vacuum dry unit with Manual load

- ① Pre-Rinse chamber
- ② Dry Chamber
- ③ Mist Collection
- ④ Filtration System
- ⑤ Main Electrical Panel
- ⑥ IRC5 Robot Controller
- ⑦ IRB6640–2:55/235 FP2 Robot
- ⑧ HP Pump

FW60MI MACHINING INTERMEDIATE WASH

Manual Load | Robot holds part | W60 series

**Additional Option:**

FD10M | Vacuum dry unit with Manual load

- ① Pre-Rinse chamber
- ② Dry Chamber
- ③ Mist Collection
- ④ Filtration System
- ⑤ Main Electrical Panel
- ⑥ IRC5 Robot Controller
- ⑦ IRB6640–2:55/235 FP2 Robot
- ⑧ MP Pump