

HIGH PRESSURE CASTING SYSTEMS



Industrial manufacturing of sanitary fittings such as rim bowls, wash basins, bidets or shower trays is carried out by high pressure casting systems. These systems are completely automatic and can carry out all production stages without manual interventions. The casting process consists of the following production stages:

- casting or feeding/exhausting of the slip;
- consolidation of the component and detachment from the mould;
- extraction of the component from the mould;
- washing of the mould.

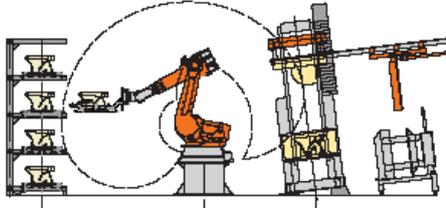
The material used for manufacturing sanitary fittings is slip, a very dense ceramic mixture made of clay and water.

PLANT DESIGN

APPLICATION

PAV - 1

Medium: Air
Pressure: 7 bar
Ambient Temperature
Seal Material: PTFE



During high pressure casting slip is injected into a mould at 18 bar pressure through injection nozzles.

1) Consolidation of the component and detachment from the mould

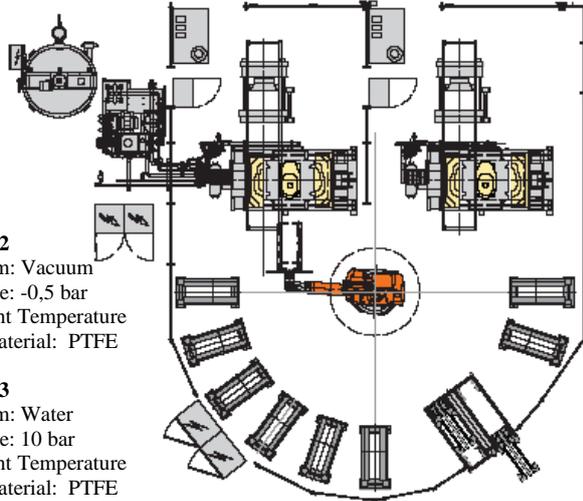
When the casting cycle is over, valves control air at 7 bar pressure and inject it into the still closed mould in order to consolidate the component and detach it from the mould.

2) Extraction of the component from the mould

During the extraction cycle valves control the vacuum cycle: thanks to suction generated by the injection nozzles in the mould, the component is retained until the robot picks it up and places it onto the drying bench.

3) Mould washing

Moulds are washed with water controlled by the valves at 10 bar pressure and injected into the inside circuits of the mould. The mould is made of micro-porous resin; thanks to its permeability it lets water filter outside thus eliminating all slip residues.



PAV - 2

Medium: Vacuum
Pressure: -0,5 bar
Ambient Temperature
Seal Material: PTFE

PAV - 3

Medium: Water
Pressure: 10 bar
Ambient Temperature
Seal Material: PTFE

SOLUTION



TYPE 1 - BCG205CTW00 for air

Normally closed bi-directional bronze PAV
Actuator body: Ø45 – connection: 1/2" gas DN 15
Seal material: PTFE -Flow direction: over / under seat
Pilot pressure: min 5 bar with flow sense 2-1
Working pressure: 0-16 bar with flow sense 2-1

TYPE 2 - RCG205CTW00 for vacuum

Normally open bronze PAV
Actuator body: Ø45 – connection: 1/2" gas DN 15
Seal material: PTFE - Flow direction: under seat
Pilot pressure: min 4 bar with flow sense 2-1
Working pressure: 0-16 bar with flow sense 2-1



TYPE 3 - BCG209LTK08 for water

Normally closed bi-directional bronze PAV
Actuator body: Ø90 – connection: 1-1/2" gas DN 40
Seal material: PTFE - Flow sense: over / under seat
Pilot pressure: min 3,3bar with flow sense 2-1
Working pressure: 0-10 bar with flow sense 2-1