



**Australian Government**

# **FBPOPR3010 Operate and monitor a filtration process**

**Release: 1**

## FBPOPR3010 Operate and monitor a filtration process

### Modification History

| Release   | Comments                                                                                       |
|-----------|------------------------------------------------------------------------------------------------|
| Release 1 | This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 6.0. |

### Application

This unit of competency describes the skills and knowledge required to set up, operate, adjust and shut down a filtration process to filter products such as juice, milk and edible oils. The unit includes the use of membrane and other filter systems.

This unit applies to individuals who work in a food processing environment. It typically applies to the production worker responsible for applying basic operating principles to the operation and monitoring of a filtration process and associated equipment.

All work must be carried out to comply with workplace procedures according to state/territory health and safety, environmental and food safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

### Pre-requisite Unit

Nil

### Unit Sector

Operational (OPR)

### Elements and Performance Criteria

| Elements                                         | Performance Criteria                                                                                                                                                                                                                                               |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i> | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                             |
| 1. Prepare for work in processing area           | 1.1 Confirm materials are available to meet product specification<br>1.2 Confirm cleaning and maintenance requirements and status according to health, safety and food safety requirements<br>1.3 Wear appropriate personal protective clothing and ensure correct |

| Elements                                                      | Performance Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i>              | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                                                                                                                                                                                                                                     |
|                                                               | fit                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2. Prepare the filtration equipment and process for operation | 2.1 Fit machine components and related attachments, and adjust to meet operating requirements<br>2.2 Enter processing and operating parameters to meet safety and production requirements<br>2.3 Carry out pre-start checks according to safe work procedures                                                                                                                                                                                                              |
| 3. Operate and monitor equipment                              | 3.1 Start, operate and monitor the process according to safe work procedures<br>3.2 Monitor the process to confirm that solids are separated from liquid, and specifications are met<br>3.3 Take samples and test to ensure product meets specifications<br>3.4 Identify, rectify and report out-of-specification equipment, product or process outcomes according to workplace requirements<br>3.5 Follow and apply workplace housekeeping and environmental requirements |
| 4. Shut down the filtration process                           | 4.1 Identify the appropriate shutdown procedure<br>4.2 Shut down the process according to safe work procedures<br>4.3 Identify and report maintenance requirements according to workplace procedures<br>4.4 Maintain workplace records according to workplace procedures                                                                                                                                                                                                   |

## Foundation Skills

*This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.*

| Skill   | Description                                                                                                                                                                         |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reading | <ul style="list-style-type: none"> <li>Interpret product specification and standard operating procedures relevant to job task</li> <li>Interpret production requirements</li> </ul> |
| Writing | <ul style="list-style-type: none"> <li>Record processing information using digital and/or paper-based format</li> </ul>                                                             |

| Skill    | Description                                                                                                                                                 |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Numeracy | <ul style="list-style-type: none"><li>• Monitor and interpret production and process control indicators and data</li><li>• Read gauges accurately</li></ul> |

## Unit Mapping Information

| Code and title current version                         | Code and title previous version            | Comments                                                                                                                                                                                                                                                                                                                   | Equivalence status |
|--------------------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| FBPOPR3010<br>Operate and monitor a filtration process | FBPOPR2037<br>Operate a filtration process | Unit merged with FBPOPR2057 Operate a membrane process<br><br>Unit code and title updated to match complexity of task<br><br>Minor changes to Performance Criteria for clarity<br><br>Foundation Skills refined<br><br>Performance Evidence clarified<br><br>Minor changes to Knowledge Evidence and Assessment Conditions | Not equivalent     |
| FBPOPR3010<br>Operate and monitor a filtration process | FBPOPR2057<br>Operate a membrane process   | Unit merged with FBPOPR2037 Operate a filtration process                                                                                                                                                                                                                                                                   | Not equivalent     |

## Links

Companion Volumes, including Implementation Guides, are available at VETNet: -  
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

## Assessment Requirements for FBPOPR3010 Operate and monitor a filtration process

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### Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has operated a filtration process to filter at least one batch of product to meet product specifications, including:

- applying safe work procedures
- following food safety procedures
- conducting pre-start checks, including:
  - inspecting equipment/filter condition to identify any signs of wear
  - selecting appropriate settings and/or related parameters
  - cancelling isolation or lock-outs
  - confirming that equipment, including pumps, valves and pipework, is clean and correctly configured for the filtration requirements
  - confirming sensors and controls are correctly positioned
  - confirming all safety guards are in place and operational
- starting, operating, monitoring and adjusting membrane processing equipment to achieve required outcomes, including monitoring control points and conducting inspections to confirm process remains within specification, including monitoring:
  - temperatures
  - flow rates
  - total solids
  - pressure/vacuum
- taking corrective action in response to typical faults and inconsistencies.

### Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose and basic principles of filtration or membrane processing, including:

- particle size of component of product
- methods used to achieve the outcome
- basic operating principles of filtration processing equipment, including:
  - main equipment components
  - status and purpose of guards
  - equipment operating capacities and applications
  - purpose and location of sensors and related feedback instrumentation
  - material composition of membranes and filters used in the workplace, and related operating, cleaning and storage requirements
- the flow of the filtration process, including the different processing streams and the effect of the filtration outputs on downstream processes
- good manufacturing practices (GMP) relevant to work task
- quality characteristics required of the filtration processing outputs
- the effect of variation in raw material characteristics on filtration performance
- operating requirements and parameters, and corrective action required where operation is outside specified operating parameters, including the effect of variation in processing parameters, including temperature, pressure, total solids and flow rates on filtration performance
- typical equipment faults and related causes, including signs and symptoms of faulty equipment, and early warning signs of potential problems
- techniques used to monitor filtration, including inspecting filters or membranes, measuring and testing by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/cross-contamination and food safety risks associated with the process, and related control measures
- common causes of variation, and corrective action required when operating a membrane process
- health and safety hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to filtration and workplace production requirements, including emergency and routine shutdowns, and procedures to follow in the event of a power outage and shutdown
- cleaning and sanitisation requirements required for filtration equipment and filters/membranes
- isolation, lock-out and tag-out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to filtration, including waste collection and handling procedures related to the process
- basic operating principles of process control, including the relationship between control panels and systems and the physical equipment
- recording requirements to ensure traceability of product.

## Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
  - a food processing workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
  - personal protective clothing and equipment
  - filtration equipment and related services
  - product to be filtered
  - cleaning and sanitisation materials and equipment
- specifications:
  - work procedures, including advice on safe work practices, food safety, quality and environmental requirements
  - information on equipment capacity and operating parameters
  - production schedule and batch specifications, control points and processing parameters
  - recording requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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