



# **awma**

*Water Control Solutions*

## PRODUCT FLYERS

WATER CONTROL GATES | SELF-CLEANING INTAKE SCREENS | FLOODFREE BARRIERS



[www.awmawatercontrol.com.au](http://www.awmawatercontrol.com.au)  
[www.floodfree.com.au](http://www.floodfree.com.au)

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The background of the entire page is a composite image. The top half features a dynamic splash of water against a deep blue sky. The bottom half shows a large-scale construction project, likely a dam or water control structure, with concrete walls and a worker in an orange safety vest and hard hat standing on a yellow platform. The overall theme is water management and engineering.

# WATER CONTROL GATES



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# SPECIALISED WATER CONTROL GATES

AWMA specialise in engineering bespoke water control gates to meet project requirements.

## FEATURES & BENEFITS

- Extremely high head pressure (proven up to 100 tonne).
- Full perimeter sealing.
- Materials to withstand aggressive environments.
- Diverse sizes and orifices.
- Accommodating short shut-down periods.
- Unique retrofit to site requirements.
- Highly specified conditions.
- For sites allowing no or restricted civil works.
- Submerged installations.
- Integration into fully automated processes.
- Containment of dry, solid or gaseous mediums.
- Chemical containment.
- Underground (tunnelling or mining) applications.
- Low impact designs to minimise injury to ecological assets.
- Infrastructure with 100 year life expectancy.
- Low whole of life costs.



## APPLICATIONS

- AWMA develop, design, manufacture and install specialised control gates and associated automation systems for applications across all industry sectors.

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# SPECIALISED WATER CONTROL GATES

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All of AWMA's Water Control Systems are custom sized to ensure they meet specific site requirements.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Materials used in the construction of AWMA's specialised gate range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The seal performance of AWMA Water Control Gates exceed that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- AWMA's gates typically have a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Gate products are developed to meet specifications.
- Early project involvement ensures development of the most appropriate gate product and specifications for the application.

### ACTUATION SYSTEMS

- AWMA offer numerous options for operation including manual, mechanical, automated, hydraulic, pneumatic, powered or electrically actuated systems.
- Staged upgrade programs are also available.

### OPERATION SYSTEMS

- A range of options are available for control and operation of specialised gate systems:
  - Integration into new or existing SCADA systems optional.
  - Global, web based operating platforms for remote control and monitoring.
  - Solar, mains, pneumatic or hydraulically powered.
  - Variety of lifting mechanisms available, including AWMA's self-engaging lifting frame.
- Storage and transportation solutions available.
- Associated systems include warning lights, water level indicators, automated message systems, reflective signage, video feeds and battery backups.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA flood defence systems.
- Comprehensive on and/or off site training available.

# CUSTOM FLOOD GATES

AWMA's FLOOD FREE range includes tailored-made flood defence gates, barriers and equipment that is specifically designed, manufactured and installed to meet site and operational requirements.

## FEATURES & BENEFITS

- Engineered and innovative suite of solutions.
- Isolates property and assets from rising storm and flood waters.
- Devices to suit openings of any size or shape.
- Isolate or re-direct flows with head pressures up to 20m.
- Designs for new structures or retrofit existing infrastructure.
- Storage, transportation and deployment options.
- Proven Solutions.

## APPLICATIONS

- Flood Mitigation.
- Storm Water Harvesting.
- Tidal Control.
- Asset Protection.
- Environmental Management.



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# CUSTOM FLOOD GATES

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA Flood Free Systems are custom sized to ensure they meet specific site requirements.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Materials used in the construction of AWMA's Flood Defence Systems have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- AWMA Flood Free Systems have a minimum 25 year design life.
- Minimal maintenance is required ensuring low 'whole of life costs'.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All procedures are developed within AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

## INSTALLATION

### MOUNTING OPTIONS

- Barriers are designed to retrofit existing infrastructure or 'green field sites'.
- AWMA offer install supervision for all turn-key installations.

### ACTUATION SYSTEMS

- AWMA offer numerous options for operation including manual, mechanical, automated, hydraulic, pneumatic, powered or electrically actuated systems.

### OPERATION SYSTEMS

- A range of manual, automated and automatic options are available for the control of AWMA's customised flood gates.
- Associated systems include warning lights, water level indicators, automated message systems, reflective signage, video feeds and battery backups.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA flood defence systems.
- Comprehensive on and/or off site training available.

# ULF PENSTOCKS

AWMA's ULF Penstock range consists of undershot regulating penstocks for flow regulation, diversion, level control or isolation. The ULF Penstocks are also known as Sluice Gates, Slide Gates, Sluice Valves, Stop Gates or Water Gates.

## FEATURES & BENEFITS

- Resilient seals on three sides of the aperture (for full perimeter sealing see the TLF, SLF or WLF Penstocks).
- Can be modulating for flow regulation.
- Bi-directional sealing available.
- Both rising and non-rising spindle configurations available.
- Custom designed and fabricated to suit any size or shaped orifice.

## APPLICATIONS

- The ULF Penstock range is commonly used for many applications across all industry sectors.
- Undershot isolation and regulation.
- Undershot regulation of open channel flow.



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# ULF PENSTOCKS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Materials used in the construction of the ULF Penstock range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The ULF Penstock range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- The ULF Penstocks are typically wall mounted.
- The side frames can be face mounted or embedded.
- The sill is available in a raised or flat sill configuration.
- Mount to concrete headwalls, in a channel or within channel rebates.

### ACTUATION SYSTEMS

- Choose from
  - Rising Spindle or
  - Non-Rising Spindle
- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable 12VDC actuator and 240VAC actuator available.
- Accepts portable petrol power actuator system.

### OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

# TLF PENSTOCKS

AWMA's TLF Penstock range consists of an undershot gate with a full perimeter seal, providing flow isolation for fully submerged on or off seating applications.

## FEATURES & BENEFITS

- Resilient seals around all four sides of the aperture.
- Excellent sealing for med-high head applications.
- Can be modulating for regulation of flows.
- Bi-directional sealing optional.
- Both rising and non-rising spindle configurations available.
- Custom designed and fabricated to suit any size or shaped orifice.

## APPLICATIONS

- Full perimeter seal provides excellent sealing performance for applications across all industry sectors.
- Isolation of pipe openings and orifices over 300mm in diameter.
- Suitable for flow isolation or regulation.



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# TLF PENSTOCKS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Materials used in the construction of the TLF Penstock range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The TLF Penstock range has a minimum 25year design life.
- Minimal maintenance is required offering low "whole of life costs".
- If required, all the wearing components can be changed, with ease, on site.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Ideal for pit and headwall installations
- The TLF Penstocks are typically wall mounted.

### ACTUATION SYSTEMS

- Choose from
  - Rising Spindle,
  - Non-Rising Spindle or
  - AWMA's Rising/Non-Rising Spindle Arrangement

### OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.



# SLF PENSTOCKS

AWMA's SLF Wedge Penstock range consists of an undershot gate with a full perimeter seal, providing flow isolation for fully submerged ON or OFF seating applications.

## FEATURES & BENEFITS

- SLF Penstocks are designed to achieve industry leading seal performance.
- Integration of UHMWPE wedges compress seals when gate is closed for excellent sealing.
- Excellent performance in low to high head applications.
- Full perimeter continuous seal, mechanically affixed to gate leaf.
- Seals manufactured from plasticised PVC.
- Bi-directional sealing as standard feature.
- All serviceable components affixed to the gate leaf for ease of maintenance.
- Available in rising and non-rising spindle configurations.
- Custom designed and fabricated to suit any size or shaped orifice.

## APPLICATIONS

- Full perimeter seal provides excellent sealing performance for applications across all industry sectors.
- Isolation of pipe openings and orifices over 300mm in diameter.





# SLF PENSTOCKS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and wedges to provide maintenance free bearing surfaces.
- Materials used for penstock door and frames include grades 304, 316, 2205 and 2507 stainless steel.
- Materials used in the construction of the SLF Penstock range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- Seals affixed to gate leaf.
- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The SLF Penstock range has a minimum 25year design life.
- Minimal maintenance is required offering low "whole of life costs".

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

- All stainless steel welding is continuous to avoid crevice corrosion.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Ideal deal for pit and headwall installations
- The SLF Penstocks are typically wall mounted.

### SPINDLE OPTIONS

- Choose from
  - Rising Spindle,
  - Non-Rising Spindle or
  - AWMA's Rising/Non-Rising Spindle Arrangement

### ACTUATION SYSTEMS

- Include:
  - Manual
  - Portable Actuator
  - DC Motor
  - AC
  - Hydraulic
  - Pneumatic

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

# WLF PENSTOCKS

AWMA's WLF Penstock range consists of a sluice type top sealing penstock featuring a wedge lock seal, designed for high head applications.

## FEATURES & BENEFITS

- Resilient seals around all four sides of the aperture.
- A unique design applies a positive seal pressure as the gate fully closes providing excellent sealing under high head pressures.
- Bi-directional sealing.
- Single and dual spindle configurations available.
- Both rising and non-rising spindle configurations available.
- Custom designed and fabricated to suit any size or shaped orifice.

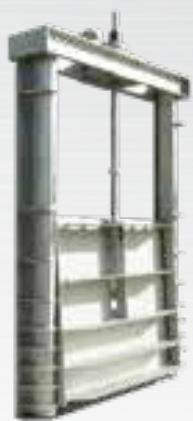
## APPLICATIONS

- Full perimeter sealing accommodates high head pressures for excellent sealing performance across all applications.
- Isolation of flow under high head applications.
- Suitable in corrosive environments.
- Excellent for Dam Isolation



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# WLF PENSTOCKS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Alternative material options are available to suit the application and/or environment specific requirements.
- Materials used in the construction of the WLF Penstock range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The WLF Penstock range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site. The WLF Penstock has specifically been designed with the seals mounted on the gate leaf, rather than the frame, for ease of maintenance.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All stainless steel welding is continuous to avoid crevice corrosion.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Typically wall mounted.
- The WLF Penstocks are ideal for pit installations.

### ACTUATION SYSTEMS

- Choose from
  - Rising Spindle,
  - Non-Rising Spindle or
  - AWMA's Rising/Non-Rising Spindle Arrangement
- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

### OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

# DLF PENSTOCKS

AWMA's DLF Penstock range consists of downwards opening, decant weirs.

## FEATURES & BENEFITS

- Modulating for regulation of flows.
- Accurate overshoot flow and upstream pool level control.
- The unique design keeps spindles out of the open water way to eliminate obstruction and maintenance issues.
- Bi-directional sealing optional.
- Single and dual spindle configurations available.
- Both rising and non-rising spindle configurations available.
- Custom designed and fabricated to suit any size or shaped orifice.

## APPLICATIONS

- The DLF Penstock range is utilised for applications across all industry sectors.
- Isolation and flow regulation.
- Small to medium decanting applications.



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# DLF PENSTOCKS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- \* Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Materials used in the construction of the DLF Penstock range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The DLF Penstock range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- The DLF Penstocks are typically wall mounted.

### ACTUATION SYSTEMS

- Choose from
  - Rising Spindle,
  - Non-Rising Spindle or
- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

### OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.



# DECANT GATES

AWMA's Decant Gate is a high frequency modulating gate for decanting applications, featuring a specialised cable drive mechanism.

## FEATURES & BENEFITS

- Specialised AWMA positive drive cables mitigate risks associated with component wear in high frequency, modulating gate systems.
- Designed to extend the design life of decanting infrastructure.
- Designed in partnership with key stakeholders.
- Minimal risk of mechanical failure, common in equipment with high frequency duty cycles.

## APPLICATIONS

- Medium to large decanting water and waste water applications.



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# DECANT GATES

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation and civil costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Constructed from marine grade aluminium or stainless steel.
- Components designed for long term immersion in corrosive environments.
- Materials used in the construction of the DLF Penstock range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The Decant Gate has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Decant Gates are typically mounted to a concrete headwall.

### ACTUATION SYSTEMS

- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

### OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

# STOPLOGS

AWMA's Stoplog range consists of fabricated modular segments of any size, joined to effectively isolate flows for maintenance, re-direction or containment.

## FEATURES & BENEFITS

- Stoplogs are typically designed for installation and removal under equalised head conditions (no flow). AWMA design options include equalisation valves and roller guides.
- The addition of roller guides allow the Stoplogs to be removed under full head differential.
- Custom designed and fabricated to suit any size or shaped orifice.
- Uni-direction sealing as standard with bi-directional models available on request.
- Insertion and removal of boards via AWMA's self engaging Lifting Frame.
- Storage solutions available.



## APPLICATIONS

- The Stoplog range is utilised for applications across all industry sectors.
- Isolation of open channel flow for maintenance purposes.

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# STOPLOGS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Alternative material options are available to suit the application and/or environment specific requirements.
- Materials used in the construction of the Stoplog range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The Stoplog range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- The Stoplog range is typically wall mounted.
- The side frames can be face mounted or embedded.
- The sill is available in a raised or flat sill configuration.

### ACTUATION SYSTEMS

- Mechanical lifting devices available.

### OPERATION SYSTEMS

- Insertion and removal of boards via AWMA's self engaging Lifting Frame.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

# BULKHEADS & ROLLER GATES

AWMA's range of Bulkheads and Roller Gates significantly reduce friction associated issues of in-flow insertion and containment for high head isolation applications.

## FEATURES & BENEFITS

- AWMA design options include equalisation valves and roller guides to allow Bulkhead Gates to be operated under flow conditions.
- Top seals are available for submerged apertures.
- Designed to withstand high head pressures.
- Uni-directional sealing as standard with bi-directional models available on request.
- Variety of lifting mechanisms optional.
- Storage solutions available.

## APPLICATIONS

- The Bulkhead Gate range is utilised for applications across all industry sectors.
- Isolation of open channel flow for maintenance purposes.
- Emergency isolation points.





# BULKHEADS & ROLLER GATES

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Alternative material options are available to suit the application and/or environment specific requirements.
- Materials used in the construction of the Bulkhead range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The Bulkhead range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- The Bulkhead frames are designed for wall, channel or embedded side frame mounting.
- The sill is available in a raised or flat sill configuration.

### ACTUATION SYSTEMS

- Mechanical lifting devices available.

### OPERATION SYSTEMS

- Variety of lifting mechanisms available, including AWMA's self-engaging lifting frame.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.



# ROUND BOTTOM BULKHEADS

AWMA's Round Bottom Bulkheads are custom engineered for isolating benched profiles, incorporating integral equalisation valves, specialising in high head applications.

## FEATURES & BENEFITS

- AWMA design options include equalisation valves and roller guides to allow Bulkhead Gates to be operated under flow conditions.
- Top seals are available for submerged apertures.
- Designed to withstand high head pressures.
- Uni-directional sealing as standard with bi-directional models available on request.
- Variety of lifting mechanisms optional.
- Storage solutions available.

## APPLICATIONS

- The Bulkhead Gate range is utilised for applications across all industry sectors.
- Isolation of open channel flow for maintenance purposes.
- Emergency isolation points.



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# ROUND BOTTOM BULKHEADS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Alternative material options are available to suit the application and/or environment specific requirements.
- Materials used in the construction of the Bulkhead range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The Bulkhead range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- The Bulkhead frames are designed for wall, channel or embedded side frame mounting.
- The sill is available in a raised or flat sill configuration.

### ACTUATION SYSTEMS

- Mechanical lifting devices available.

### OPERATION SYSTEMS

- Variety of lifting mechanisms available, including AWMA's self-engaging lifting frame.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

# SEGMENTED STOPBOARDS

AWMA's Segmented Stopboard range consists of fabricated modular segments of any size, joined to effectively isolate flows for regulation, re-direction or containment.

## FEATURES & BENEFITS

- Modular segments are fabricated to suit project requirements.
- Designed to suit square and rectangular openings up to 6m wide.
- Allows overshot level regulation as well as flow isolation.
- Consists of dedicated extruded section with embedded seals.
- Uni-directional as standard. Bi-directional sealing designs available upon request.
- Storage solutions available.

## APPLICATIONS

- The Segmented Stopboard range is utilised for applications across all industry sectors.
- Isolation of open channel flow for maintenance purposes.
- Isolation and regulation of open channel flow.
- Regulation of environmental flows.



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# SEGMENTED STOPBOARDS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Mostly constructed from marine grade aluminium.
- Materials used in the construction of the Segmented Stopboard range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The Segmented Stopboard range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- The Stopboard frames are designed for wall, channel or embedded side frame mounting.
- The sill is available for use on either a flat or raised sill.

### ACTUATION SYSTEMS

- Mechanical lifting devices available.

### OPERATION SYSTEMS

- Insertion and removal of boards via the AWMA manual Lifting Ladder.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

# LAYFLAT GATES

AWMA's LayFlat (Tilting Weir) Gate range incorporates downwards opening tilt gates for accurate regulation and isolation of flows.

## FEATURES & BENEFITS

- The design includes a gate leaf that is hinged across the bottom and actuated via a cable hoist mechanism.
- Single bay and multi-bay designs available.
- The LayFlat Gate range has a dedicated volumetric flow algorithm available that has been independently certified to guarantee an accuracy better than  $\pm 5\%$ .
- The modular design allows for the actuation system to be self contained or separately mounted.
- Accurate overshoot flow and level control.
- Integrated emergency bulkhead guides.
- Suits structure openings of all sizes and are custom sized to suit their required application.



## APPLICATIONS

- The LayFlat Gate range is utilised for applications across all industry sectors.
- To date, AWMA has manufactured Australia's largest tilting LayFlat Gates required to regulate environmental flows.
- Proven to accurately regulate irrigation, environmental and storm water flows.
- Fish-friendly, suitable for environmental applications.

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# LAYFLAT GATES

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Alternative material options are available to suit the application and/or environment specific requirements.
- Materials used in the construction of the Bulkhead range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The LayFlat range has a minimum 25 year design life.
- Minimal maintenance is required offering low "whole of life costs".
- If required, all the wearing components can be changed, with ease, on site.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- The LayFlat Gates can be mounted to the upstream or downstream side of new or existing structures to maintain 100% of the original open waterway.
- Alternatively they can be mounted inside the structures.
- Options include:
  - Upstream slab mount; self contained actuation
  - In structure mount; separately mounted actuation
  - In structure mount; separately mounted raised actuation.

### ACTUATION SYSTEMS

- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

### OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

# SIDEWINDERS

AWMA's SideWinder is a horizontal opening slide gate.

## FEATURES & BENEFITS

- Resilient seals along the bottom, sides and when required across the top of the aperture.
- Uni-directional as standard. Bi-directional sealing designs available upon request.
- Custom designed and fabricated to suit any size or shaped orifice.

## APPLICATIONS

- The SideWinder range is typically used in vertical slot, fish way applications.
- Suits any application where vertical travel of the gate leaf is restricted.



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# SIDEWINDERS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Materials used in the construction of the SideWinder gate range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The Sidewinder range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- SideWinders are typically wall mounted.

### ACTUATION SYSTEMS

- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

### OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

# HEAD & DISCHARGE GATES

AWMA's Head & Discharge Gate range is a dual leaf gate design consisting of overshot and undershot gates in the one frame.

## FEATURES & BENEFITS

- Regulate flows and water levels with the upper gate leaf.
- Set flow rate or fully drain the upstream pool with the lower gate leaf.
- Lift both gates leaves completely out of the water way to allow for unobstructed flow.
- Suitable for single and multi-bay sites.
- Uni-directional sealing as standard.
- Both rising and non-rising spindle configurations available.
- Accurate overshot and undershot flow and level control.
- Custom designed and fabricated to suit any size or shaped orifice.



## APPLICATIONS

- The Head & Discharge Gate range is utilised for applications across all industry sectors.
- Most commonly used for regulating and draining open channel systems.



# HEAD & DISCHARGE GATES

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for gates and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Materials used in the construction of the Combination Gate range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The Head & Discharge Gate has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Head & Discharge Gates are typically wall mounted.
- The side frames can be face mounted or embedded.
- The sill is available in a raised or flat sill configuration.

### ACTUATION SYSTEMS

- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

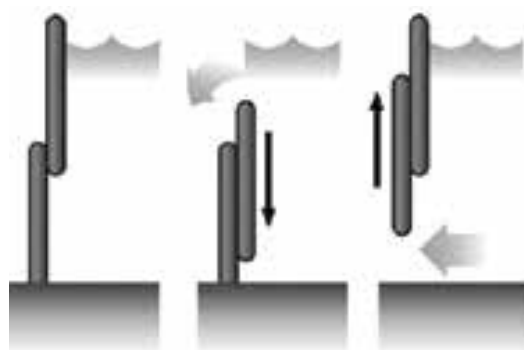
### OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.



# COMBINATION GATES

AWMA's Combination Gate range is a dual leaf gate design consisting of overshoot and undershot gates in the one frame.

## FEATURES & BENEFITS

- Combination Gates allow many options for overshoot and undershot flow regulation and control, within a single gate structure.
- Regulate flows and water levels with the upper gate leaf.
- Set flow rate or fully drain the upstream pool with the lower gate leaf.
- Lift both gate leaves completely out of the water way to allow for unobstructed flow.
- Custom designed to meet flow regulation, operation and site requirements.
- Suitable for single and multi-bay sites.
- Uni-directional sealing as standard.
- Both rising and non-rising spindle configurations available.
- Accurate overshoot and undershot flow and level control.
- Custom designed and fabricated to suit any size or shaped orifice.



## APPLICATIONS

- The Combination Gate range is utilised for applications across all industry sectors.
- Multiple regulation and isolation options for medium-large applications.

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# COMBINATION GATES

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for gates and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Materials used in the construction of the Combination Gate range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The Combination Gate has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Combination Gates are typically wall mounted.
- The side frames can be face mounted or embedded.
- The sill is available in a raised or flat sill configuration.

### ACTUATION SYSTEMS

- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

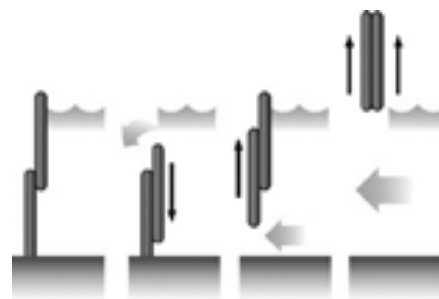
### OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web bas

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.



# FLAP GATES

The AWMA Flap Gate is a one way/non-return flap gate designed to prevent backflow.

## FEATURES & BENEFITS

- Automatically isolates stormwater pipes.
- Effective backflow prevention device.
- Dual adjustable pivot arms for robust operation and consistent contact.
- Low head loss.
- Full perimeter sealing.
- Designed for up to 3m head pressure as standard.
- Custom designed to isolate any orifice including pipe and box culvert outlets.
- Requires minimal civil works to install.

## APPLICATIONS

- The Flap Gate range is used for many applications across all industry sectors.
- Primarily used as backflow prevention devices for stormwater management and to prevent ingress from tidal flows and floodwater.



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# FLAP GATES

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.
- Flap gates shall have dual adjustable pivot arms for robust operation and consistent contact.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Materials used for doors and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Flap Gate seals shall be mechanically fastened (non-adhesive) and are designed for ease of replacement.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Suitable for corrosive tidal environments.

### MAINTENANCE

- The Flap Gate range has a minimum 25year design life.
- Minimal maintenance is required offering low "whole of life" costs.
- If required, the seal can be changed with ease, on site.

## MANUFACTURE

- All AWMA products meet relevant Australian and international standards.
- All stainless steel welding is continuous to avoid crevice corrosion.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Flap Gates are typically mounted to a culvert headwall or pipe.
- Frame requires a minimum 200mm clearance either side and below the aperture for installation.
- Frame can be a circular design for mounting to the outside of a pipe.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

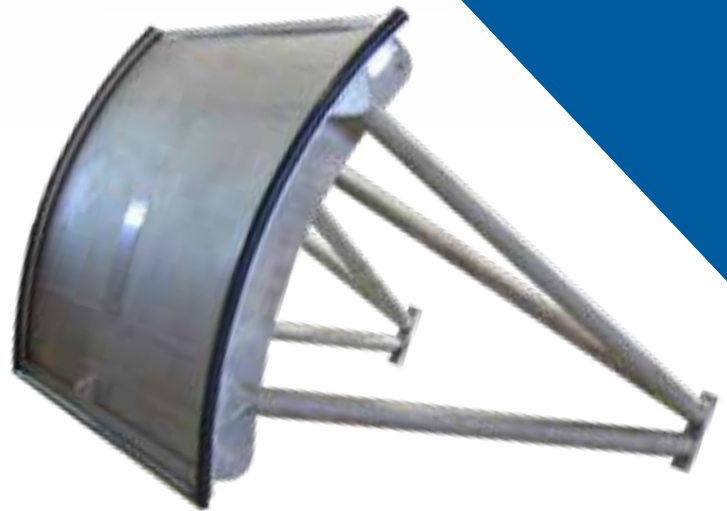
- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.
- The dual pivot arms to be adjusted post install to confirm seal engagement.

# RADIAL GATES

AWMA's Radial (Tainter) Gate is a rounded water control gate with long radial arms, usually fully automated.

## FEATURES & BENEFITS

- Undershot regulation.
- Suitable for all water types and loading.
- Reduced actuation load.
- Custom designed and fabricated to suit any size orifice.

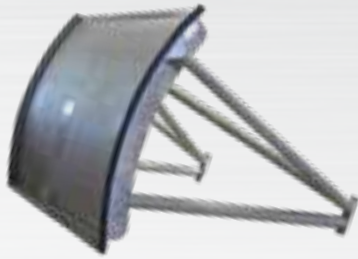


## APPLICATIONS

- The Radial Gate range is utilised for applications across all industry sectors.
- Typically used for large dam applications.
- Applications requiring isolation of large openings or undershot regulation.

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# RADIAL GATES

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Most commonly constructed from marine grade aluminium.
- Materials used in the construction of the Radial Gate range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The sealing ability of this gate meets the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The Radial Gate range has a minimum 25 year design life.
- Minimal maintenance is required offering low "whole of life costs".

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Radial Gates are mounted in concrete channels or to concrete headwalls.

### ACTUATION SYSTEMS

- Electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

### OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.



# INTAKE SCREENS



[www.awmawatercontrol.com.au](http://www.awmawatercontrol.com.au)



# CYLINDER SCREENS POWERED

Single cylinder and T-Screens provide screening for pumped intakes and gravity offtakes.

## HOW IT WORKS

- Water flows through the wedge wire screen medium (excluding debris and protecting aquatic life),
- The internal drive unit slowly rotates the external wedge wire cylinder,
- Fixed internal and external brush systems clean the screening surface, preventing biofouling,
- The screen drive unit includes electric and hydraulic options which may be mains or solar powered,
- The cylinder screens are programmed by the asset owner to operate as often as required in accordance with predicted debris loading.

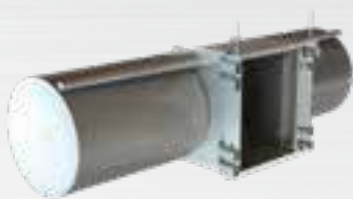
## FEATURES & BENEFITS

- The Single Cylinder Screen allows flows up to 160ML/day (1852 L/s), the Double T-Screen is suitable for flows up to 330 ML/day (3819 L/s).
- Configurations for multiple screens, with a large flow capacity, available on request.
- Various screen aperture sizes available, typically 2mm slot width.
- Low maintenance stainless steel construction.



- Wedge wire screen medium is strong and durable.
- Self-cleaning with internal and external brushes.
- Internal diffusers ensure even flow distribution over the entire screen surface.
- Installed in a fixed position or on a Retrieval System.
- Cathodic protection minimises corrosion.
- Proven technology.
- Compliant with AUS/NZ Fish Screening Guidelines.
- Sustainable operation under heavy debris, sedimentation and biofouling conditions.
- Protects fish from entrainment and impingement.
- Protects pumps and pipeline infrastructure.
- Reduces the loading on, or eliminates downstream fine filtration systems.
- Improves water quality.





# CYLINDER SCREENS POWERED

## APPLICATIONS

- Irrigation.
- Power plant intakes.
- Water extraction facilities.
- Cooling water intakes.
- Dam inlet towers.
- Seawater intakes.

## DESIGN

### DESIGN SUPPORT

- These brush-cleaned screens are designed and manufactured by AWMA Water Control Solutions under a licensing agreement with Intake Screens, Inc.
- Screen designs are based on worldclass, 20+ years of proven international performance, complemented with AWMA's design capabilities to provide full design support, ensuring the most appropriate solution is developed to suit site conditions.

### SIZES

- A range of sizes available upon request.

### MATERIALS

- Wedge wire made from Grade 304 Stainless Steel is standard, with alternative materials available on request.

### MAINTENANCE

- AWMA's products typically have a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Early project involvement ensures development of the most appropriate mounting and retrieval options, eliminating the need for operators to work in, on or over water. Whilst the screens are self-cleaning and require minimum maintenance, a number of solutions are available for ease of screen retrieval to the surface, which may include a rail system.

### OPERATION

- This clean and efficient screening solution allows water to flow through the screen into the suction pipe, delivering clean water (with fish protection), without disrupting flow. Screens may be electric, hydraulic or solar powered.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA screens.
- Comprehensive on and/or off site training available.



# CYLINDER SCREENS SELF-PROPELLED

No power is required to operate these self-cleaning, self-propelled single cylinder and T-screens, suitable for pumped intakes and gravity offtakes.

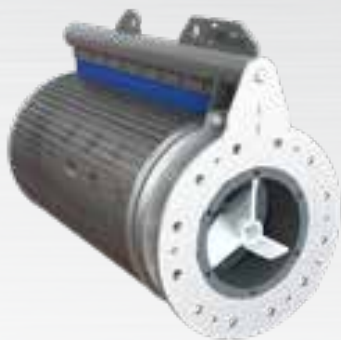
## HOW IT WORKS

- The screen unit consists of a wedge wire cylinder and propeller drive system, with internal and external brush systems,
- Water flows through the wedge wire screen medium (excluding debris and protecting aquatic life),
- The propeller drive system operates automatically whenever the flow in the suction pipe exceeds a certain value, this in turn rotates the screen via a gearbox arrangement to self-clean the cylinder screen,
- Fixed internal and external brush systems clean both sides of the screening surface, preventing biofouling.

## FEATURES & BENEFITS

- Suitable for flows between 3 ML/day (35 L/s) and 37 ML/day (428 L/s).
- Various screen aperture sizes available, typically 2mm slot width.
- Low maintenance stainless steel construction.
- Wedge wire screen medium is strong and durable.
- Self-cleaning with internal and external brushes.
- Internal diffusers ensure even flow distribution over the entire screen surface.
- Installed in a fixed position or on a Retrieval System.
- Cathodic protection minimises corrosion.
- Proven technology.
- Compliant with AUS/NZ Fish Screening Guidelines.
- Sustainable operation under heavy debris, sedimentation and biofouling conditions.
- Protects fish from entrainment and impingement.
- Protects pumps and pipeline infrastructure.
- Reduces the loading on, or eliminates downstream fine filtration systems.
- Improves water quality.





# CYLINDER SCREENS SELF-PROPELLED

## APPLICATIONS

- Irrigation.
- Power plant intakes.
- Water extraction facilities.
- Cooling water intakes.
- Dam inlet towers.
- Seawater intakes.

## DESIGN

### DESIGN SUPPORT

- These brush-cleaned screens are designed and manufactured by AWMA Water Control Solutions under a licensing agreement with Intake Screens, Inc.
- Screen designs are based on worldclass, 25+ years of proven international performance, complemented with AWMA's design capabilities to provide full design support, ensuring the most appropriate solution is developed to suit site conditions.

### SIZES

- Four sizes are available with flow rates ranging from 3 ML/day (35 L/s) to 40 ML/day (463 L/s).

### MATERIALS

- Wedge wire made from Grade 304 Stainless Steel is standard, with alternative materials available on request.

### MAINTENANCE

- AWMA's products typically have a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

Early project involvement ensures development of the most appropriate mounting and retrieval options, eliminating the need for operators to work in, on or over water. Whilst the screens are self-cleaning and require minimum maintenance, a number of solutions are available for ease of screen retrieval to the surface, which include:

- Submersible Pontoons.
- Rail Systems.

### OPERATION

The propeller drive system on this model uses the waterway's natural flow to rotate the external cylinder screen, which in turn self-cleans both sides of the wedge wire screen. A clean and efficient screening solution allows water to flow through the screen into the suction pipe, delivering clean water (with fish protection), without disrupting flow.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA screens.
- Comprehensive on and/or off site training available.



# CONE SCREENS

Cone shaped screening solutions are ideal for shallow intakes or offtakes.

## FEATURES & BENEFITS

- The screen covers an intake, pipe or manifold underneath it.
- Screen design reduces the approach velocity.
- External brush arm rotates about vertical axis to self-clean, preventing biofouling.
- Low maintenance stainless steel construction.
- Wedge wire screen medium is strong and durable.
- Internal diffuser ensures even flow distribution over the entire screen surface.
- Cone shaped screens provide large surface area over small footprint.
- Various aperture sizes available, typically 2mm slot width.
- Standard size cone screens available for flows up to 260 ML/day (3009 L/s).
- Proven technology.
- Compliant with AUS/NZ Fish Screening Guidelines.
- Sustainable operation under heavy debris, sedimentation and biofouling conditions.



- Marine-duty hydraulic motor rotates brushes in both directions.
- Protects fish from entrainment and impingement.
- Protects pumps and pipeline infrastructure.
- Protects downstream filtration and irrigation equipment.
- Improves water quality.
- Can include SCADA interface for remote monitoring and control functionality.

## APPLICATIONS

- Irrigation Diversions.
- Urban Water Intakes.
- Debris/weed dense waterways.

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# CONE SCREENS

## DESIGN

### DESIGN SUPPORT

- Cone screens are designed and manufactured by AWMA Water Control Solutions under a licensing agreement with Intake Screens, Inc.
- Screen designs are based on worldclass, 25+ years of proven international performance, complemented with AWMA's design capabilities to provide full design support, ensuring the most appropriate solution is developed to suit site conditions.

### SIZES

- A range of standard sizes available.
- Multiple screens may be used at any one location to accommodate large flow volumes.

### MATERIALS

- Wedge wire made from Grade 304 Stainless Steel is standard, with alternative materials available on request.

### MAINTENANCE

- AWMA's products typically have a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- The Cone Screen can be mounted onto a custom designed base to suit site and operational requirements.
- Cone Screens can be mains or solar powered.
- Cone Screen actuation options include Electric or Hydraulic.

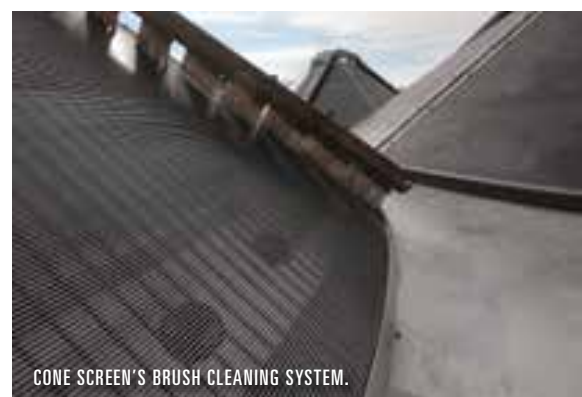
### OPERATION SYSTEMS

- The brushes operate automatically, as programmed to suit cleaning requirements.
- Electric and hydraulic systems operate on a timer which can be programmed in accordance with debris loads. Usually they need only operate once or twice a day, for a minute or two.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA screens.
- Comprehensive on and/or off site training available.



CONE SCREEN'S BRUSH CLEANING SYSTEM.

# TRAVELLING POLYMER SCREENS

Polymer Travelling Screens are engineered for fish protection and removal of debris from waterways.

## HOW IT WORKS

- The Travelling Polymer Screen is a debris removal system, typically installed and operated within a channel structure.
- The powered polymer screen rotates to clear debris from the waterway, carrying it up and over the structure into a designated storage system until cleared.
- The rotating screen has no side chains, no submerged moving parts and is designed to remain in the water year round for 24/7 debris removal.
- The automated self-cleaning function is facilitated by scraper or water sprays to maintain a clean and efficient screen surface.

## FEATURES & BENEFITS

- No submerged moving parts.
- Chainless screen design.
- Cleaned via scraper or water sprays.
- Innovative drive design.
- Low maintenance polymer material.
- Various aperture sizes available.
- Proven technology.
- Compliant with AUS/NZ Fish Screening Guidelines.
- Efficient removal of trash from waterway.



- Sustainable operation under heavy debris, sedimentation and biofouling conditions.
- Protects fish from entrainment and impingement.
- Protects pumps from clogging.
- Protects downstream filtration and irrigation equipment.
- Improved water quality.
- Engineered polymer does not corrode.
- Polymer less likely to experience ice adhesion.

## APPLICATIONS

- Irrigation diversions.
- Urban water intakes.
- Debris/weed dense waterways.
- Hydro power facilities.
- Water extraction facilities.
- Cooling water intakes.



# TRAVELLING POLYMER SCREENS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- Customised to suit the application.

### MATERIALS

- Polymer screening material is reliable, durable and low maintenance. Stringy debris is less likely to wrap or cling to the polymer screen material.
- Frame options are typically stainless steel.

### MAINTENANCE

- AWMA's products typically have a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- The engineered polymer modules are interlocked with full length rods, allowing fast on-site maintenance if required.
- The Travelling Screens have no side chains, no submerged moving parts and are designed to remain in the water year round, operating 24/7.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- The Travelling Polymer Screen is typically mounted within a channel structure.
- Mounting options include consideration of the debris removal system.

### DRIVE SYSTEMS

- Travelling Polymer Screens are powered via an electric motor and gearbox.

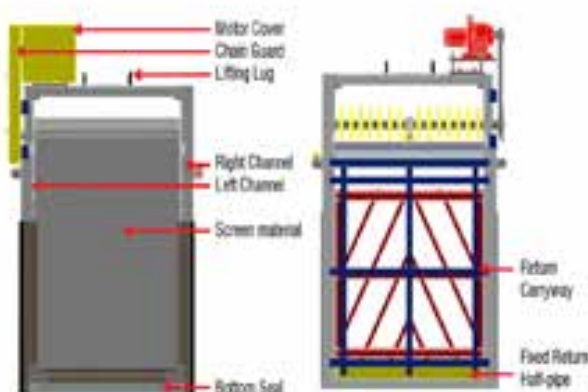
### OPERATION SYSTEMS

- Other than the travelling screen there are no moving parts submerged in the water.
- The screen operates via an innovative drive system.
- System features a scraper to facilitate cleaning and debris removal, with the option for water sprays.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA screens.
- Comprehensive on and/or off site training available.



# AUTOMATED TRASH SCREENS

Automated Trash Screens remove weed and debris from waterways, often protecting downstream systems and minimising OH&S risks. Design options are available for bulk and finer filtration requirements.

## FEATURES & BENEFITS

- Reliable self-cleaning system.
- Customised bar spacing or wedge wire options to suit debris type and loading.
- Automated trash screens can be either AC or DC powered.
- Low noise level.
- Long life fully sealed polymer bearings.
- Optional spill trays and screen covers.
- Custom designed to suit application size and shape.
- Captures floating and submerged debris within waterways.
- Reduces OH&S risks by eliminating manual cleaning.
- Requires minimal civil works to install.
- Protects downstream infrastructure such as pumps, valves and pipework.
- Designed to require minimal maintenance.
- Improved downstream water quality.
- Designs meet safety regulations on pipes, siphons, pumps and culverts.
- Suitable for exclusion of weed, rubbish, branches and other solids.



## APPLICATIONS

- Pipes.
- Pump Intakes.
- Siphons.
- Stormwater Systems.
- Floodways.
- Channels.
- Water Distribution Systems.
- Wetlands.
- Mining.





# AUTOMATED TRASH SCREENS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing water control and screening solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA screens are custom sized to ensure they meet specific site and operational requirements.

### MATERIALS

- AWMA automated trash screens are constructed from either 304 or 316 stainless steel for long service life.

### MAINTENANCE

- Trash Screens are designed to achieve high duty cycles with minimal downtime.
- Can be easily accessed and cleaned out of the waterway, without the need to dewater or bypass the structure.
- Minimal maintenance is required offering low 'whole of life costs'.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

### OPTIONS

- Customised spill trays, hungry boards and screen covers are available, subject to application.
- Water Sprays.

## INSTALLATION

### MOUNTING OPTIONS

- Trash Screens are typically wall mounted.

### OPERATION

- AWMA's Automated Trash Screens utilise either raked or brushed elevator's (or flights) attached to a rotating chain system. This is driven by a motor and gearbox coupled to a drive shaft. The result is a reliable, autonomous, self-cleaning system. These debris removal processes can remove bulky objects and/or fine debris from the front of the screen to avoid blockages. Debris is transported upwards, out of the waterway into removable disposal bins, conveying chutes or troughs.

## COMMISSIONING

- Detailed documentation on operation, testing procedures and maintenance is provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

## DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance is provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.



RAKED AUTOMATED TRASH SCREEN  
FOR COARSE SCREENING

# BAR SCREENS

AWMA Bar Screens are designed with retractable, manually operated retrieval systems. An economical and safe solution for removing weed and debris from waterways.

## FEATURES

- Custom designed to suit application size and shape.
- Captures floating and submerged debris within waterways.
- Easily cleaned, without the traditional manual handling risks.
- Customised bar spacing to suit debris type and loading.
- Designed to require minimal maintenance.
- Low noise level.
- Designs eliminate the need for operators to work in, on or over water.
- Suitable for exclusion of weed, rubbish, branches and other solids.

## BENEFITS

- Reduces OH&S risks.
- Requires minimal civil works to install.
- Protects downstream infrastructure such as pumps, valves and pipework.
- Improved downstream water quality.



## APPLICATIONS

- Pipes.
- Pump Intakes.
- Siphons.
- Stormwater Systems.
- Floodways.
- Channels.
- Water Distribution Systems.
- Wetlands.

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# BAR SCREENS

## DESIGN

### DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

### SIZES

- All AWMA screens are custom sized to ensure they meet specific site and operational requirements.

### MATERIALS

- AWMA bar screens are constructed from either marine grade aluminium or stainless steel.

### MAINTENANCE

- Screens can be easily accessed and cleaned out of the waterway, without the need to dewater or bypass the structure.
- Minimal maintenance is required offering low 'whole of life costs'.

## MANUFACTURE

### ISO CERTIFICATION

- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Bar Screens are typically stand-alone structures, customisable to meet site and operational requirements.

### OPERATION

- A manual winch and pulley system is often used to retract and extend bar screens in and out of the waterway, eliminating manual handling risks over and alongside waterways/channels.
- A track system allows operators to manually glide the screen horizontally, or vertically, away from the channel to clear the screen.

## COMMISSIONING

- Detailed documentation on operation, testing procedures and maintenance is provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

## DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance is provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.









# FLOODFREE BARRIERS

# DEMOUNTABLE FLOOD BARRIERS

Demountable Flood Barriers allow property and asset owners to manually deploy their own protection barrier to isolate flood and storm waters in and around existing infrastructure.

## FEATURES & BENEFITS

- Proven flood protection.
- Designed to suit square and rectangular openings of an infinite length.
- Modular segments are fabricated in 100mm high increments.
- Permanent end frames and permanent footings enhance rapid deployment.
- Segments consist of extruded section with embedded seals.
- Storage solutions and transportation trolleys available.
- Economical, proven flood prevention solution.

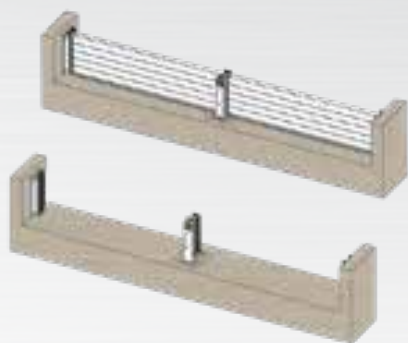


## APPLICATIONS

- Residential and commercial building protection.
- Liftwell barriers.
- Driveway barriers.
- Doorway barriers.
- Ventilation outlet isolation.
- Basement barriers.
- Access barriers.

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# DEMOUNTABLE FLOOD BARRIERS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing flood barrier solutions for bespoke green-field and brown-field sites.

### SIZES

- All AWMA Flood Barriers are custom sized to ensure they meet specific site requirements.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Marine grade aluminium barrier segments and posts.
- Materials used in the construction of AWMA's Flood Barrier range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### MAINTENANCE

- The AWMA FloodFree range has a minimum 25 year design life.
- Minimal maintenance is required ensuring low 'whole of life costs'.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Barriers are designed to retrofit existing infrastructure or 'green field sites', they are also suitable for 'brown field sites'.
- AWMA offer install supervision for all turn-key installations.

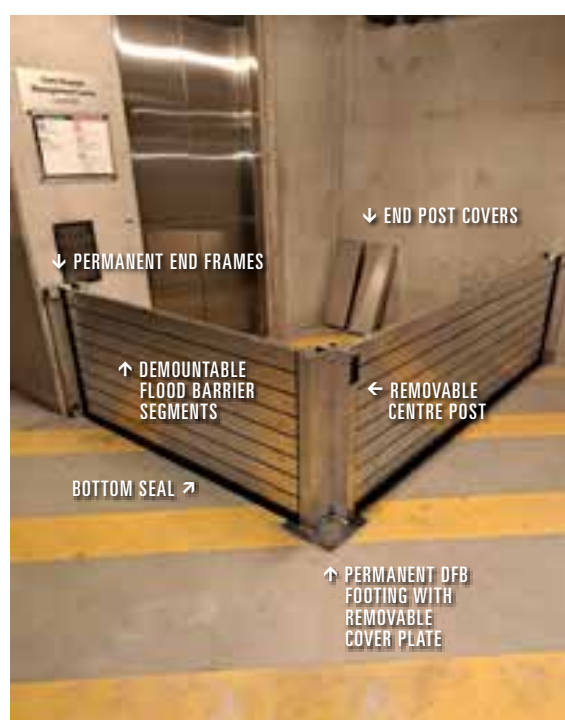
## DEPLOYMENT

- The AWMA Demountable Flood Barriers are designed to be manually deployed by a single operator.
- Storage Racks are available, custom manufactured from marine grade aluminium to suit the number of barriers and posts required. Can include wheels or forklift provision.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA flood defence systems.
- Comprehensive on and/or off site training available.



# RETRACTABLE FLOOD BARRIERS

The Retractable Flood Barrier is a sliding floodgate designed specifically to isolate large openings as part of a total flood defence system.

## FEATURES & BENEFITS

- Effective solution for small to large openings.
- Proven AWMA horizontal sliding gate design.
- Low maintenance design ensures the flood barrier remains ready to deploy at all times.
- Manual and actuated deployment options available.

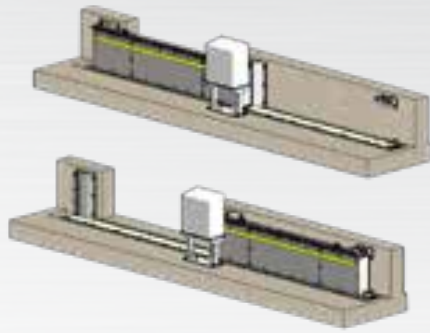
## APPLICATIONS

- Typically installed on driveway entry points.
- Residential and commercial building protection.
- Liftwells.
- Driveways.
- Doorways.
- Basement entry.
- Pedestrian access.
- Car parks.
- Car lifts / car stackers.



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# RETRACTABLE FLOOD BARRIERS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing flood barrier solutions for bespoke green-field and brown-field sites.

### SIZES

- Customisable to suit specific site requirements.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Marine grade aluminium construction.
- Materials used in the construction of AWMA's Flood Free range have a high corrosion resistance and can be operated for many years with minimal maintenance.
- Options include coloured coatings.

### MAINTENANCE

- The AWMA Flood Free range has a minimum 25 year design life.
- Minimal maintenance is required ensuring low 'whole of life costs'.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Barriers are designed to retrofit existing infrastructure or 'green field sites', they are also suitable for 'brown field sites'.
- AWMA offer install supervision for all turn-key installations.

## DEPLOYMENT

- The AWMA Retractable Flood Barrier is designed to function via manual and/or actuated control.
- The gate leaf will travel sideways to close the gap in the existing wall, completing the flood barrier to protect the property from rising water levels.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA flood defence systems.
- Comprehensive on and/or off site training available.



# CONCEALED FLOOD BARRIERS

The Concealed Flood Barrier is a self-actuating flood protection barrier that rises, vertically, via floatation to the specified flood height.

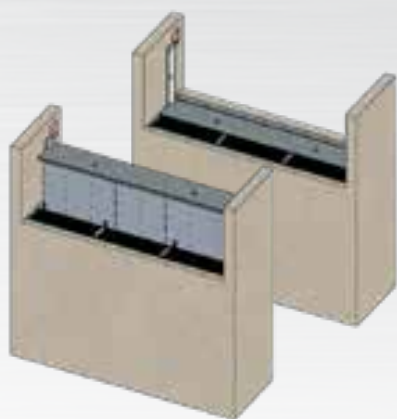
## FEATURES & BENEFITS

- The barrier is permanently installed below ground level at the isolation point, ready for deployment when required.
- Rising water levels cause an automatic response, elevating the isolation barrier via floatation.
- The barrier then retracts below ground level as water levels decrease.
- Suitable for small to large openings.
- Low maintenance design.
- Low aesthetic impact.

## APPLICATIONS

- Basement and carpark access points.
- Pedestrian access and pathways.
- Flood levees.
- Residential and commercial property protection.
- Doorways.
- Loading Docks.
- Driveways.





# CONCEALED FLOOD BARRIERS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing flood barrier solutions for bespoke green-field and brown-field sites.
- The FloodFree Concealed Flood Barrier is manufactured from marine grade aluminium and shall be trafficable for Class G medium traffic maximum 10Tn GVM as per AS1170.1 when fully lowered as standard.
- Heavy duty solution available subject to approval by AWMA engineering as part of the design process.

### SIZES

- Customisable to suit specific site requirements.
- Minimum height 300mm.
- After 300mm, the next height is 500mm, then height increases in 250mm increments, up to 1500mm.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Marine grade aluminium.
- Materials used in the construction of AWMA's Flood Free range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### SEALING

- The seal performance of AWMA Flood Gates exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

### MAINTENANCE

- The AWMA Flood Gate range has a minimum 25 year design life.
- Minimal maintenance is required ensuring low 'whole of life costs'.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.

- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Barriers are designed to retrofit existing infrastructure or 'green field sites', they are also suitable for 'brown field sites'.
- AWMA offer install supervision for all turn-key installations.

## DEPLOYMENT

- The AWMA Concealed Flood Barrier is designed to self-deploy ahead of rising flood waters.
- No operator intervention is required.
- Variety of audio and visual warning systems available for most barriers.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA flood defence systems.
- Comprehensive on and/or off site training available.





# TILTING FLOOD BARRIERS

The Tilting Flood Barrier is installed horizontally at ground level. It is self-actuating, deploying via floatation, tilting upwards to the specified flood height.

## FEATURES & BENEFITS

- Tilting Flood Barriers may be Passive or Actuated.
- Fabricated from marine grade aluminium.
- Designed for strength, high corrosion resistance and long asset life.
- Low maintenance design.
- Fully trafficable.
- Excellent sealing.

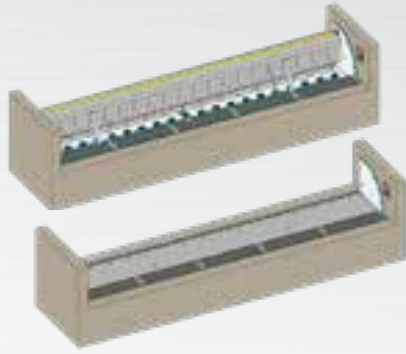
## APPLICATIONS

- Commercial.
- Residential.
- Basement Car Park Entrances.
- Building Entry.



**awma**  
Water Control Solutions





# TILTING FLOOD BARRIERS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing flood barrier solutions for bespoke green-field and brown-field sites.
- All FloodFree Barriers are purpose-designed, engineered and manufactured.
- Project partners receive full design support to ensure the product delivered will be engineered and certified to withstand site specific worse case scenarios for expected flood water height, debris loading, deployment times etc.
- The Passive Tilting Flood Barrier is manufactured from marine grade aluminium and shall be trafficable for Class G medium traffic maximum 10Tn GVM as per AS1170.1 when fully lowered as standard.
- Heavy duty solution available subject to approval by AWMA engineering as part of the design process.
- Optional extras for actuated systems include battery charged backup systems (to ensure flood protection during power black-outs), warning lights and SMS alarms.

### SIZES

- Minimum height 500mm, plus 250mm increments up to 1500mm.
- Alternative heights available subject to AWMA engineering approval.

### MATERIALS

- Materials used in the construction of AWMA's FloodFree range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### MAINTENANCE

- The AWMA Flood Gate range has a minimum 25 year design life.
- Minimal maintenance is required ensuring low 'whole of life costs'

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## DEPLOYMENT

- Tilting Flood Barriers may be Passive or Actuated.
- Passive Tilting Flood Barriers deploy automatically, using principles of buoyancy to ensure barriers raise ahead of flood waters. The passive flood barrier will deploy and retract as required, without any human interaction, providing complete peace of mind.
- Powered Tilting Flood Barriers use level sensors to automatically deploy the tilting flood barrier as required, with the additional advantage of manual and/or local control push button.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA flood defence systems.
- Comprehensive on and/or off site training available.

# SWING FLOOD BARRIERS

The Swing Flood Barrier is an outward opening hinged floodgate designed to provide effective isolation of floodwaters up to the height of the gate.

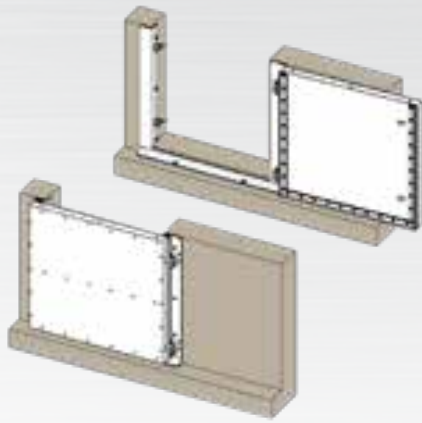
## FEATURES & BENEFITS

- Swing Barriers are manufactured from marine grade aluminium.
- A manual locking mechanism(s) sures the gate in the closed position.
- Seals are manufactured from UV stabilised plasticised PVC.
- Seal frames are manufactured from aluminium or stainless steel and are designed for face mount installation onto the wall of a building, levee or other structure.
- Swing Barriers can be supplied as either right or left hand hinged.
- Swing flood barriers are supplied with a mill finish as standard.
- Optional coating of AWMA Swing Barriers is available in any colour to integrate with the surrounding building or structure.
- Full perimeter sealing available.
- Locking mechanisms may be custom latches or handle assemblies.



## APPLICATIONS

- Pedestrian access.
- Basement entry.
- Utility Boxes.
- Doorways.
- Liftwells.
- Bunds / Levees.
- Access hatches.



# SWING FLOOD BARRIERS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing flood barrier solutions for bespoke green-field and brown-field sites.

### SIZES

- Customisable to suit specific site requirements.

### MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Marine grade aluminium, stainless steel.
- Materials used in the construction of AWMA's Flood Free range have a high corrosion resistance and can be operated for many years with minimal maintenance.

### MAINTENANCE

- The AWMA Flood Gate range has a minimum 25 year design life.
- Minimal maintenance is required ensuring low 'whole of life costs'.

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

### MOUNTING OPTIONS

- Barriers are designed to retrofit existing infrastructure or 'green field sites', they are also suitable for 'brown field sites'.
- AWMA offer install supervision for all turn-key installations.

## DEPLOYMENT

- The Swing Barrier is manually operated.

## COMMISSIONING

### DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA flood defence systems.
- Comprehensive on and/or off site training available.



# PERSONAL ACCESS FLOOD DOORS

Flood protection for any standard, outward opening door. The FloodFree Personal Access Flood Door (PAFD) is engineered to withstand the designated flood level. Once closed it provides a flood protected, lockable point of entry/exit.

## FEATURES & BENEFITS

- Can be used as an everyday door.
- Feels, operates and looks like a regular door.
- Design complies with Australian Standard AS1428.1 (Design Access and Mobility Standards).
- Designed to fit standard door frame sizes.
- Hydrostatically charged door seals designed for optimum sealing performance.
- Multiple frame fixing points securely anchor door frame to wall.
- All fixings concealed.
- Suitable for most types of door hardware.
- Door and frame supplied in a range of powder coat colours.
- Door supplied pre-hung for easy installation.
- Designed for minimal maintenance.
- Permanent protection.
- Corrosion resistant.
- Robust construction.



## APPLICATIONS

- Shopping centres.
- Sporting complexes.
- Offices.
- Residential houses.
- Storage facilities.
- Industrial buildings.
- Utility rooms.
- Commercial.





# PERSONAL ACCESS FLOOD DOORS

## DESIGN

### DESIGN SUPPORT

- AWMA's R&D and Engineering teams are available under Early Contractor Involvement (ECI), to assist in developing flood barrier solutions for bespoke green-field and brown-field sites.

### SIZES

- Suits standard door sizes (between 720mm - 1286mm wide and 2040mm - 2340mm high).
- Customisable to suit.

### MATERIALS

- PAFDs are fabricated from marine grade aluminium, designed for strength, high corrosion resistance, long asset life and minimal maintenance.
- Doors will be supplied with Mortice Locks, handles and door closer unless otherwise specified.

### SEALING

- The FloodFree door design, frame and seals will provide water resistant sealing up to 1045mm.
- Full perimeter sealing available.

### MAINTENANCE

- The AWMA Flood Gate range has a minimum 25 year design life.
- Minimal maintenance is required ensuring low 'whole of life costs'

## MANUFACTURE

### QUALITY

- All AWMA products meet relevant Australian and international standards.
- AWMA hold international accreditations for ISO 9001; Quality, ISO 14001; Environment and ISO 45001 OH&S management.
- AWMA's Integrated Management System aims to provide a framework to deliver products and services that consistently exceed customer expectations.

## INSTALLATION

- Installation procedure similar to standard door frames.
- Doors supplied pre-hung and painted with hardware.
- Installation instructions provided.



LOOKS, FEELS AND OPERATES  
LIKE A STANDARD DOOR.





# **awma**

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