

WATER MANAGEMENT CONFIDENCE



TOTAL WATER MANAGEMENT SOLUTIONS
FOR THE MINING INDUSTRY



TOTAL WATER MANAGEMENT

RAW | PROCESS | WASTE | COOLING | GLAND | FRESH | FIRE | POTABLE | FLOTATION | RECLAIM



WATER is a constant issue for mining operations. Properly balancing supply for both revenue and non-revenue generating equipment is a major challenge.

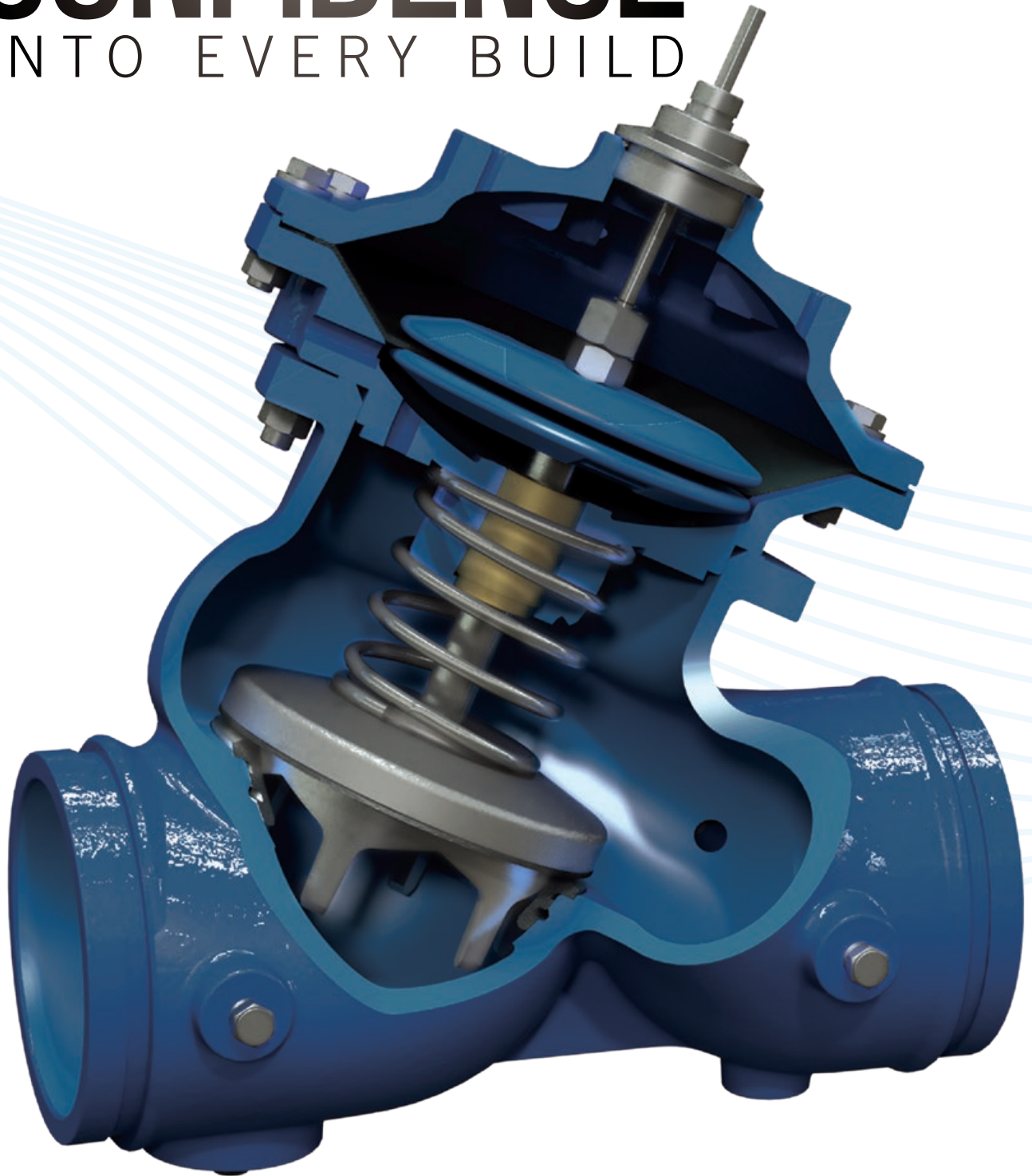
REVENUE generating equipment like drilling jumbos and crushers must function at full-capacity to maximize productivity and profitability.

TAILING | SUPPLY | DIRTY | MILL | DUST | CONDENSER | CHILLED | HEATING | SUMP | GREY



ENGINEERING CONFIDENCE

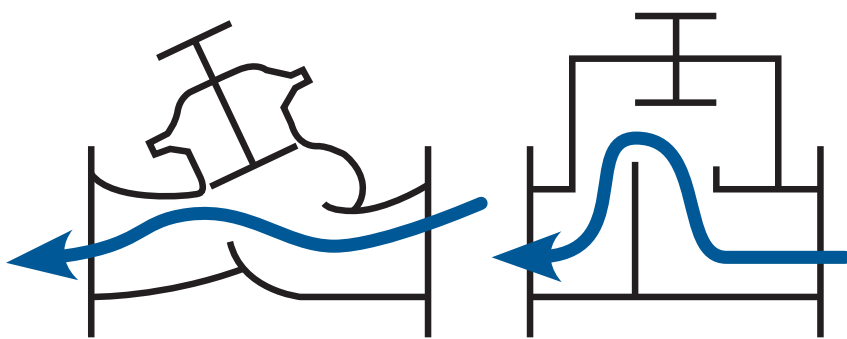
INTO EVERY BUILD



At the heart of every water management system is the hydraulic control valve, and there is no better solution than BERMAD. Control valves provide pressure reducing (PRV), burst control, pressure sustaining, pressure relief, tank level control, and a multitude of water management functions based on trim configuration.

FULL BORE, Y-PATTERN BODY PROVIDES 15% MORE WATER

Direct flow path reduces cavitation and wear, extending operating life of valve and eliminates clogs



BERMAD semi-straight valve body design vs. competitive globe valve design

RAPID RESPONSE

Double chamber actuator and optional V-Port throttling plug



SAVE HOURS OF DOWNTIME

Field service up to 8X faster with BERMAD actuation



LARGE CONTROL FILTERS AND PROTECTED DIAPHRAGM

Guard against damage and maximize lifecycle

NO PRESSURE TOO HIGH

Regardless of site conditions or available flow, BERMAD and Victaulic bring you the total package from a trusted, single-source.



PRESSURE REDUCING VALVE – PILOT OPERATED

BERMAD MODELS MN-720 | MN-820

[Download publication Series 700 data sheet](#) for complete information

- Hydraulically operated pressure reducing valve **reduces high upstream pressure to a lower, constant downstream pressure**
- Modular, **double-chamber actuation** for rapid response and simple maintenance
- Materials and configuration determined by site conditions to ensure peak performance
- Sizes from 1½–48" | DN40–DN1200
- Pressures up to 400 psi | 2758 kPa | 28 bar
- MN-820 available for pressures up to 600 psi | 4137 kPa | 41 bar



PRESSURE REDUCING VALVE – PROPORTIONAL

BERMAD MODEL MN-720-PD | MN-820-PP | MN-HPE-IRV

[Download publication Series 700 data sheet](#) for complete information

- Hydraulically operated pressure reducing valve **reduces high upstream pressure to a lower downstream pressure at a fixed ratio**
- Modular, **double-chamber actuation** for rapid response and simple maintenance
- Materials and configuration determined by site conditions to ensure peak performance
- Sizes from 1½–36" | DN40–DN900
- Pressures up to 400 psi | 2758 kPa | 28 bar
- MN-820 available for pressures up to 600 psi | 4137 kPa | 41 bar
- MN-HPE-IRV available for pressures up to 1480 psi | 10204 kPa | 102 bar



BURST CONTROL VALVE

BERMAD MODEL MN-790 | MN-890

[Download publication Series 700 data sheet](#) for complete information

- Hydraulically operated flow control valve **shuts drip-tight upon sensing excessive pressure**
- Modular, **double-chamber actuation** for rapid response and simple maintenance
- Materials and configuration determined by site conditions to ensure peak performance
- Sizes from 1½–48" | DN40–DN1200
- Pressures up to 400 psi | 2758 kPa | 28 bar
- MN-890 available for pressures up to 600 psi | 4137 kPa | 41 bar



PRESSURE SUSTAINING PRIORITY VALVE

BERMAD MODEL MN-730 | MN-830

[Download publication Series 700 data sheet](#) for complete information

- Hydraulically operated pressure sustaining valve **sustains a minimum, pre-determined (back) pressure, regardless of fluctuating flow or varying downstream pressure**
- Modular, double-chamber, **diaphragm actuation** for rapid response and simple maintenance
- Materials and configuration determined by site conditions to ensure peak performance
- Sizes from 1½–48" | DN40–DN1200
- Pressures up to 400 psi | 2758 kPa | 28 bar
- MN-830 available for pressures up to 600 psi | 4137 kPa | 41 bar



QUICK RELIEF VALVE

BERMAD MODEL MN-73Q | MN-83Q

[Download publication Series 700 data sheet](#) for complete information

- Hydraulically operated pressure relief valve **opens quickly upon sensing excess pressure**
- Modular, **double-chamber actuation** for rapid response and simple maintenance
- Materials and configuration determined by site conditions to ensure peak performance
- Sizes from 1½–48" | DN40–DN1200
- Pressures up to 400 psi | 2758 kPa | 28 bar
- MN-83Q available for pressures up to 600 psi | 4137 kPa | 41 bar

TOTAL FLOW MANAGEMENT

With the most comprehensive range of hydraulic and electronic flow control valves and meters, BERMAD has the solution.



SOLENOID CONTROLLED VALVE

BERMAD MODELS MN-710 | MN-810

[Download publication Series 700 data sheet](#) for complete information

- Hydraulically operated valve **opens or shuts off service** in response to electric signals
- Modular, **double-chamber actuation** for rapid response and simple maintenance
- Materials and configuration determined by site conditions to ensure peak performance
- Sizes from 1½–48" | DN40–DN1200
- Pressures up to 400 psi | 2758 kPa | 28 bar
- MN-810 available for pressures up to 600 psi | 4137 kPa | 41 bar



SURGE ANTICIPATING VALVE

BERMAD MODEL MN-735 | MN-835

[Download publication Series 700 data sheet](#) for complete information

- Hydraulically operated, off-line surge anticipating valve **opens immediately in response to pressure drop** associated with an abrupt pump stoppage
- Modular, **double-chamber actuation** for rapid response and simple maintenance
- Materials and configuration determined by site conditions to ensure peak performance
- Sizes from 1½–48" | DN40–DN1200
- Pressures up to 400 psi | 2758 kPa | 28 bar
- MN-835 available for pressures up to 600 psi | 4137 kPa | 41 bar



CHECK VALVE (LIFT TYPE)

BERMAD MODELS MN-710 | MN-810

[Download publication Series 700 data sheet](#) for complete information

- Non-slam, lift type, non-return check valve **opens to allow flow in the required direction** and closes to prevent back flow
- **Service performed in-line** for simplified maintenance
- Materials determined by site conditions to ensure peak performance
- Sizes from 1½–48" | DN40–DN1200
- Pressures up to 400 psi | 2758 kPa | 28 bar
- MN-810 available for pressures up to 600 psi | 4137 kPa | 41 bar



FLOW METERS

BERMAD MODELS MUT2200EL | MUT2300

[Download publication MUT2200EL](#) for complete information

[Download publication MUT2300](#) for complete information

- Capable of measuring low flow rates, even in problematic or low flow applications
- Wide range of measurement
- Leakage detection
- MUT2200EL sizes from 1–80" | DN25–DN2000
- MUT2200EL available for pressures up to 900 psi | 6205 kPa | 62 bar
- MUT2300 sizes from 2–12" | DN50–DN300
- MUT2300 available for pressures up to 350 psi | 2413 kPa | 24 bar



BERMAD AIR RELEASE VALVES

BERMAD MODELS A71 | A30 | C30 | C50 | C70

[Visit victaulic.com](http://victaulic.com) for complete information

- Efficient operation of water systems requires that air is removed from the line throughout a given system, as air can be released from liquid as temperatures and pressures change during normal operations
- Release accumulated air pockets from pressurized pipe lines
- Compact, simple and reliable designs
- Provide excellent protection against air accumulation ensuring efficient pipeline operation
- Air valves are available in a variety of materials and formats and specified based on site conditions

TOTAL WATER MANAGEMENT

From pressure reduction to burst control, from flow monitoring to prioritization, BERMAD is the perfect choice for your retrofit or new construction project.



STRAINERS

BERMAD MODELS MN-70F | MN-80F

Visit victaulic.com for complete information

- Protecting internal pipe components from debris or damaging flow conditions
- BERMAD strainers trap foreign matter from the pipeline until cleanout can be performed
- Strainers should be installed upstream from control valves, and flow meters to maximize component life-cycle and minimize maintenance
- Large capacity trap, low pressure loss
- Available in a variety of materials and coatings



VICTAULIC® ISOLATION VALVES

SERIES 727 | SERIES 761 | SERIES 713

Visit victaulic.com for complete information

- Series 727 Ball Valve – Isolation capabilities up to 1500 psi | 10350 kPa | 103 bar
- Series 761 Butterfly Valve – Isolation capabilities up to 300 psi | 2065 kPa | 21 bar
- Series 713 Check Valve – Pressure capabilities up to 1000 psi | 6900 kPa | 69 bar
- High performance isolation and check valves offer code compliant solutions for a variety of applications and services
- Grooved ends reduce the overall valve weight and simplify installation



VICTAULIC® INSTALLATION-READY® COUPLINGS

STYLE 107N | STYLE 177N

[Visit victaulic.com](http://victaulic.com) for complete information

- With more than 100 years in the industry, innovations from Victaulic® continue to define pipe joining for industrial construction
- Rigid mechanical joints provide immobility and limit undesired movement
- Flexible mechanical joints allow angular deflection and provide sound and vibration attenuation
- Join pipe and fittings in most piping materials, whether grooved or plain-end, plastic or steel, lined or coated
- Fast, simple, safe



VICTAULIC® GROOVED END FITTINGS

GROOVED END FITTINGS

[Visit victaulic.com](http://victaulic.com) for complete information

- Standard and long radius fittings available with grooved or shouldered ends
- Available in ductile iron, carbon steel, stainless steel, or aluminum
- Orange enamel, hot-dip galvanized, or custom coated
- Elbows, Tees, Adapters, Crosses, Wyes, Reducing Tees, Plugs, Caps, Laterals, Swaged Nipples, Flange Adapters, Concentric and Eccentric Reducers

PRE-ENGINEERED, FACTORY-ASSEMBLED CONTROL STATIONS

Using the components described here and many more, pre-engineered hydraulic control solutions are available for a wide variety of water management applications including:

- **Pressure Reducing Stations**
- **Burst Control Stations**
- **Priority and Flow Control Stations**

Regional availability, contact [Victaulic](http://victaulic.com) for details.

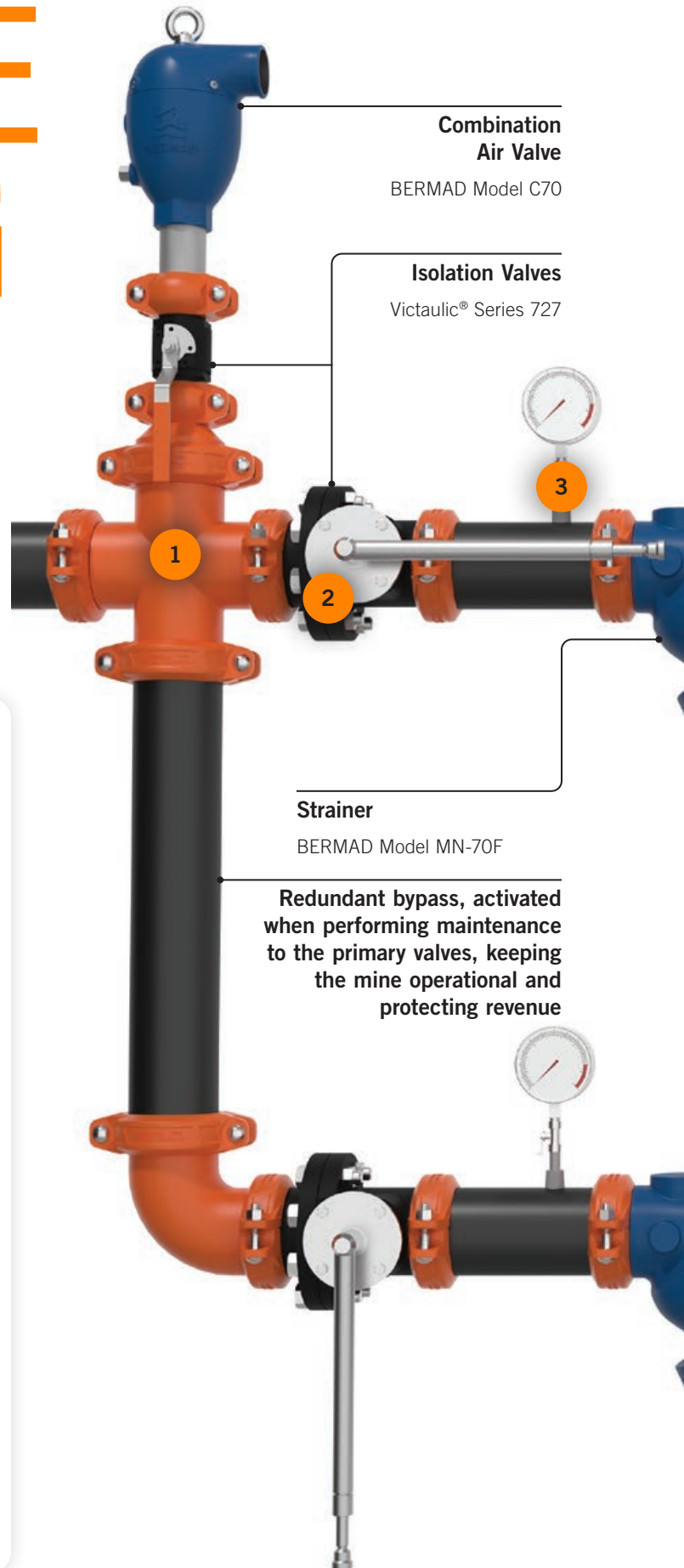


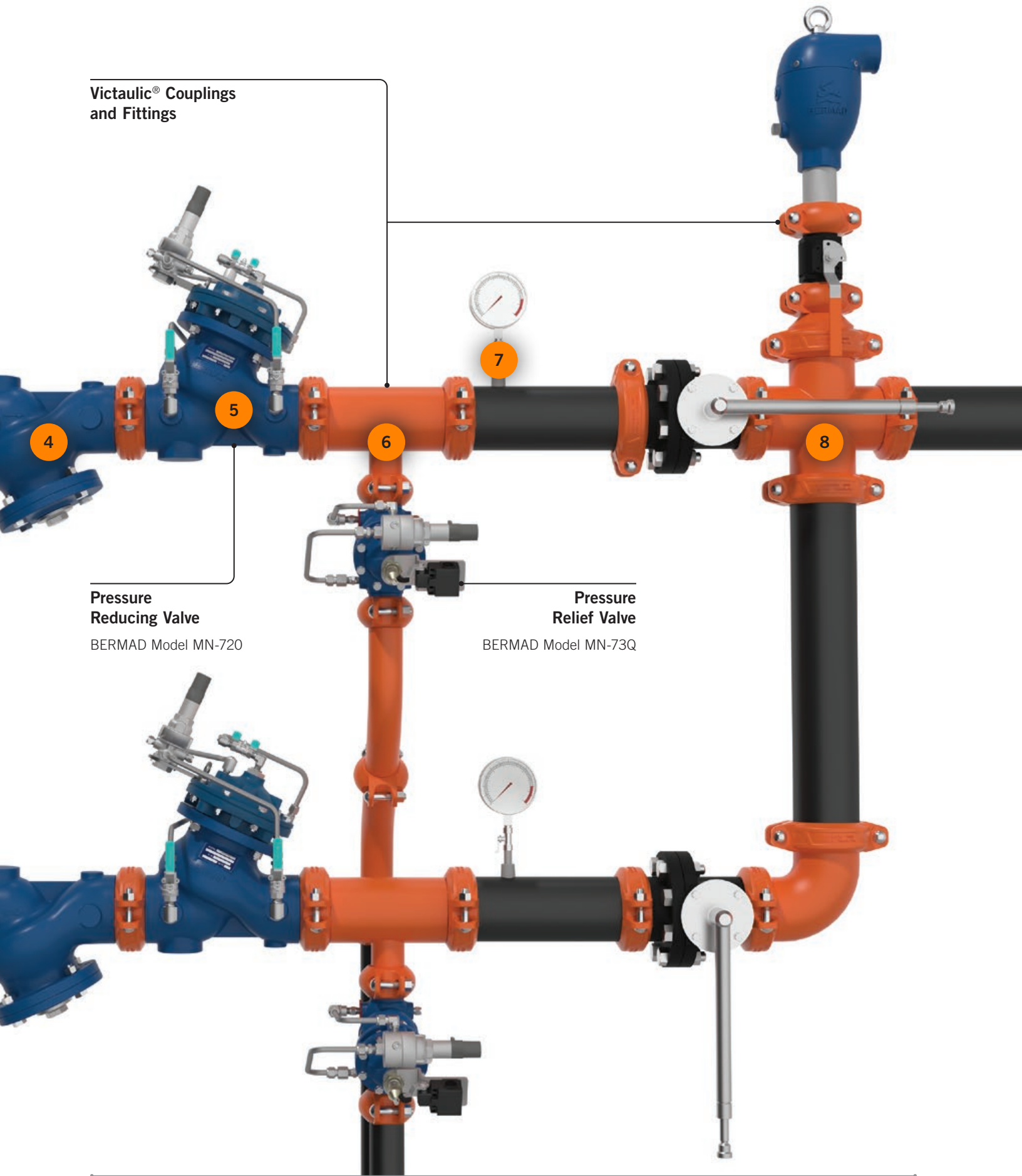
PRESSURE REDUCING STATIONS

Pre-engineered, factory-assembled pressure reducing stations deliver plug-and-play solutions that can be installed quickly with a factory-warranty.

AS WATER FLOWS FROM LEFT TO RIGHT...

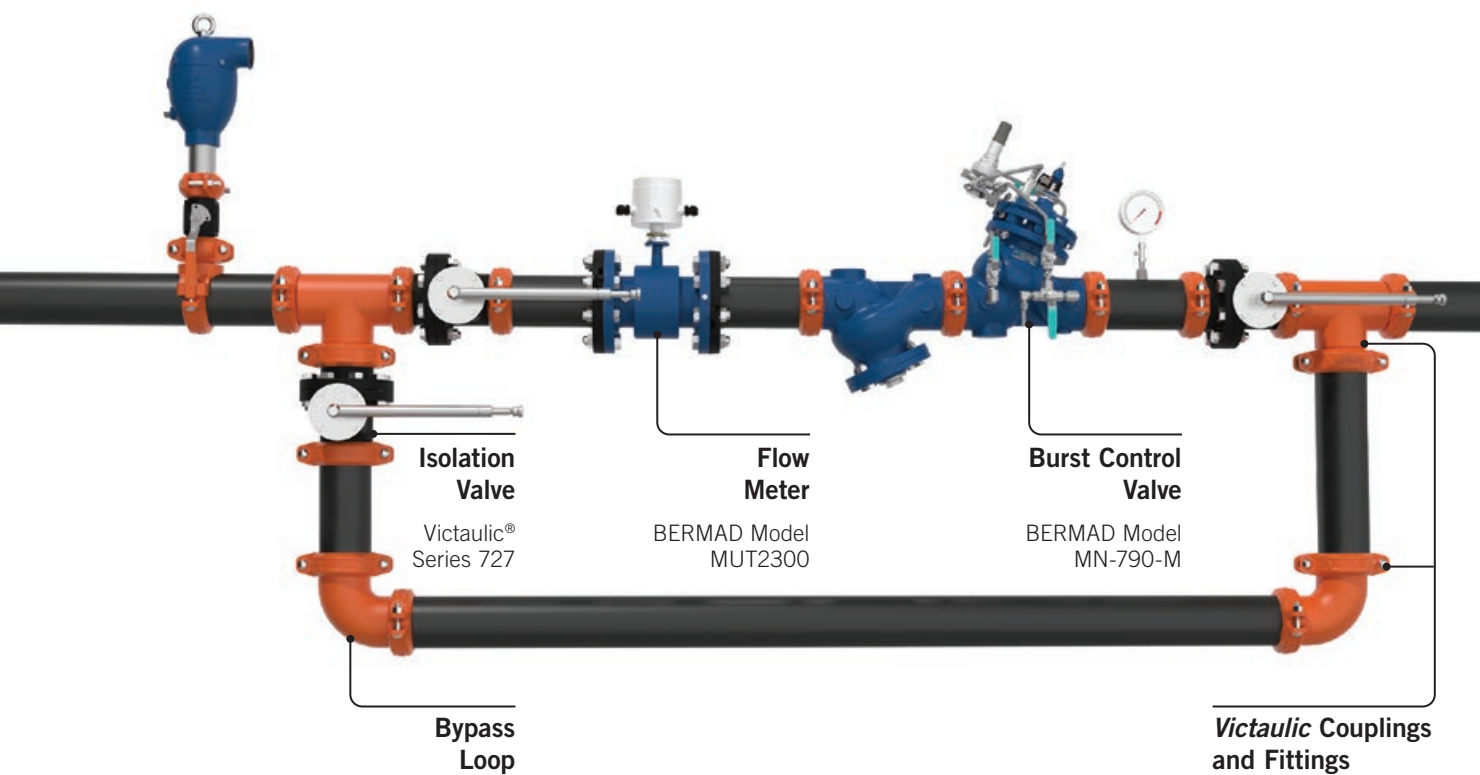
- 1 Combination Air Valve**
Removes air to maximize flow
- 2 Isolation Valves**
Isolate components for maintenance
- 3 Pressure Gauge**
Verify upstream pressure
- 4 Strainer**
Remove damaging debris from flow
- 5 Pressure Reducing Valve**
Reduces pressure to ideal state
- 6 Pressure Relief Valve**
Relieve excess pressure in the event of surge to protect downstream systems
- 7 Pressure Gauge**
Verify upstream pressure
- 8 Combination Air Valve**
Removes air released during pressure reduction to maximize flow





BURST CONTROL STATIONS

Upon sensing flow in excess of setting, shuts off and locks drip tight, until it is manually reset. As long as flow is lower than the setting, the valve remains fully open to minimize head loss.



FLOW METERS

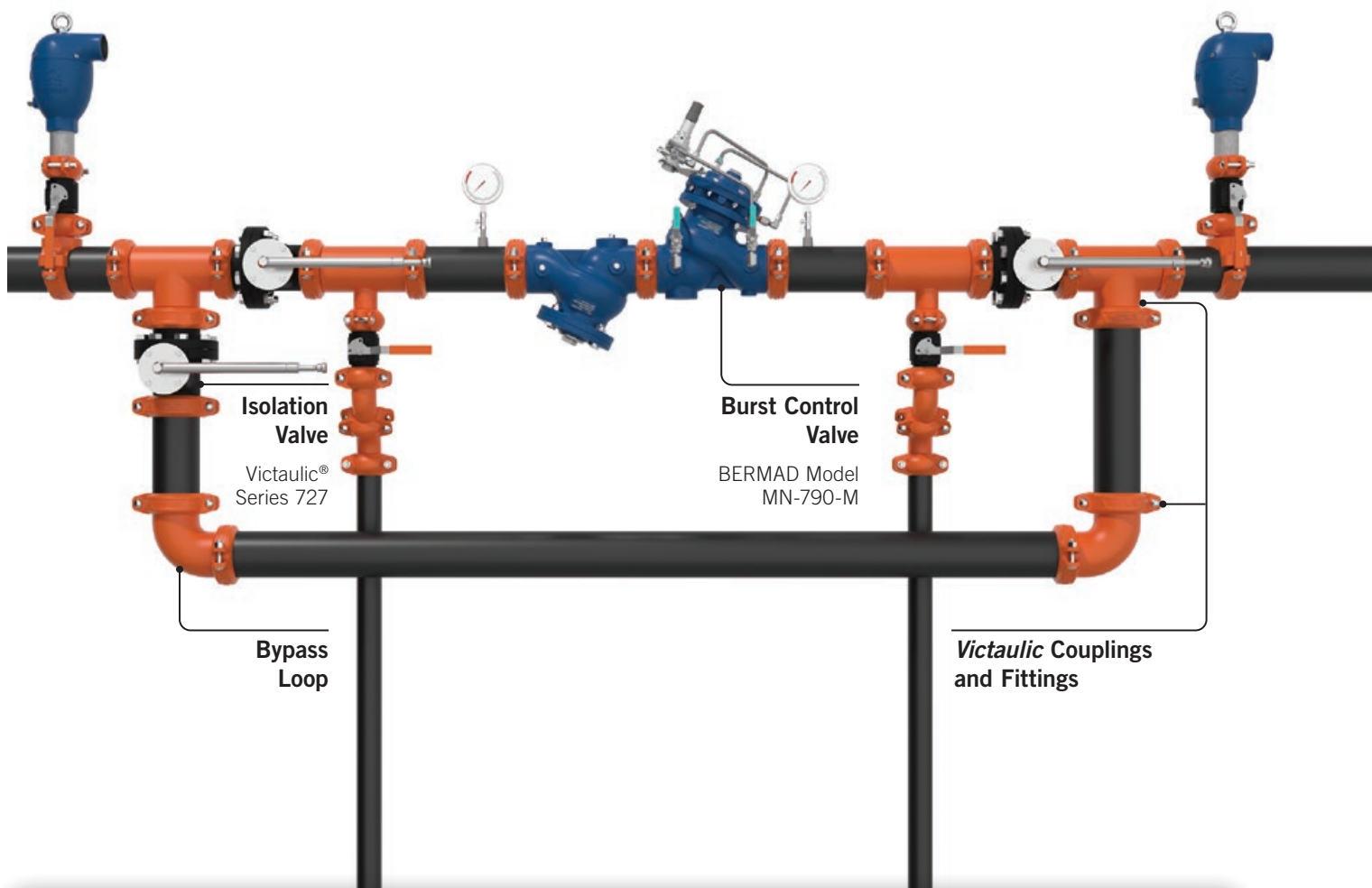
Flow meters are used to monitor flow rates and ensure operation efficiency, maximizing production.

BURST CONTROL

Upon sensing excess flow, burst control valves respond by closing to protect revenue and maximize resources.

PRIORITY VALVE STATIONS

Prioritize water pressure to revenue generating areas of the mine. The priority valves are used to keep water in balance and send water where it is needed the most.



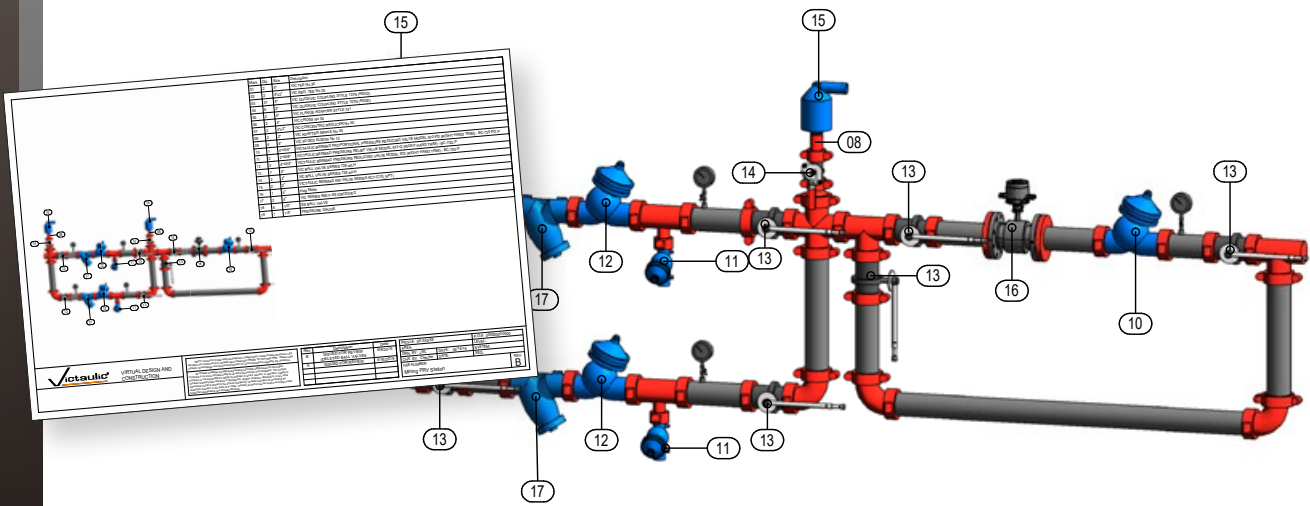
PRIORITY CONTROL

Pressure is sustained at a minimum, pre-determined (back) pressure for a branch by modulating flow in response to fluctuations or varying downstream pressure.

AIR RELEASE

Air must be evacuated if a system is going to operate efficiently, as pipeline volume is fixed and water is the lifeblood of a mine, not air.

WORLD CLASS SERVICE AND ENGINEERING

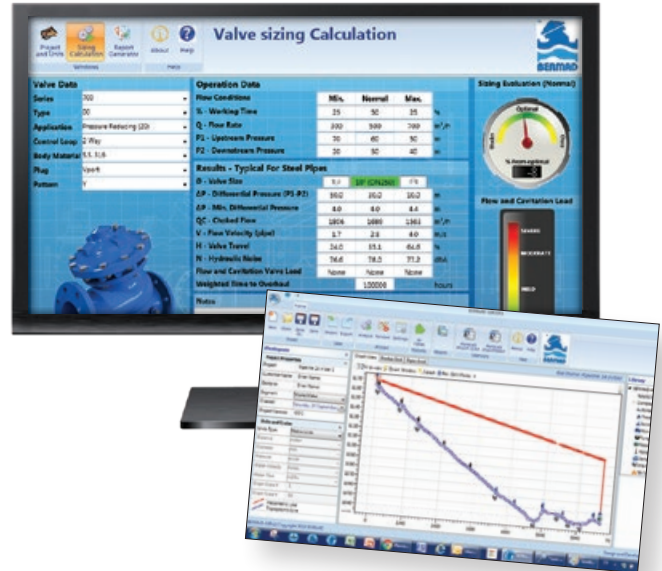


VALVE SELECTION AND SIZING

Define Your Needs

Developed in-house by BERMAD Engineers, this software optimizes the location and sizing of hydraulic control valves in a specific project.

- Simplified quotation process
- Size and style selection based on application analysis and experience
- Flow charts, graphs and reports based on real life conditions



For 50 years, BERMAD has been the recognized pioneer and world leading provider of high quality Hydraulic Control Valves. World Class pre-sale engineering support is paramount to matching your challenges with the best, most economical solutions from BERMAD.



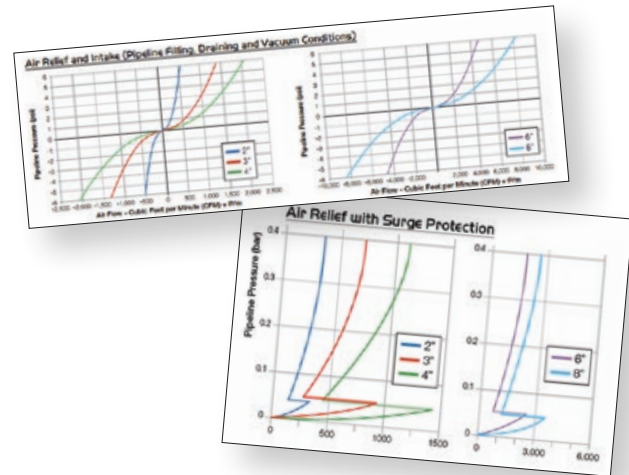
PIPING SYSTEM PROTECTION ANALYSIS

KYPipe — Surge Analysis

BERMAD Engineering also offers surge analysis in order to determine the required optimal protection strategies to ensure effective and safe system operation.

- Modeling and data verification
- Transient analysis without any protection
- Running iterations with various protection measures to achieve optimal solution

A comprehensive report is provided; including recommendations on products and settings.



BERMAD AIR

Air Valve Sizing Program

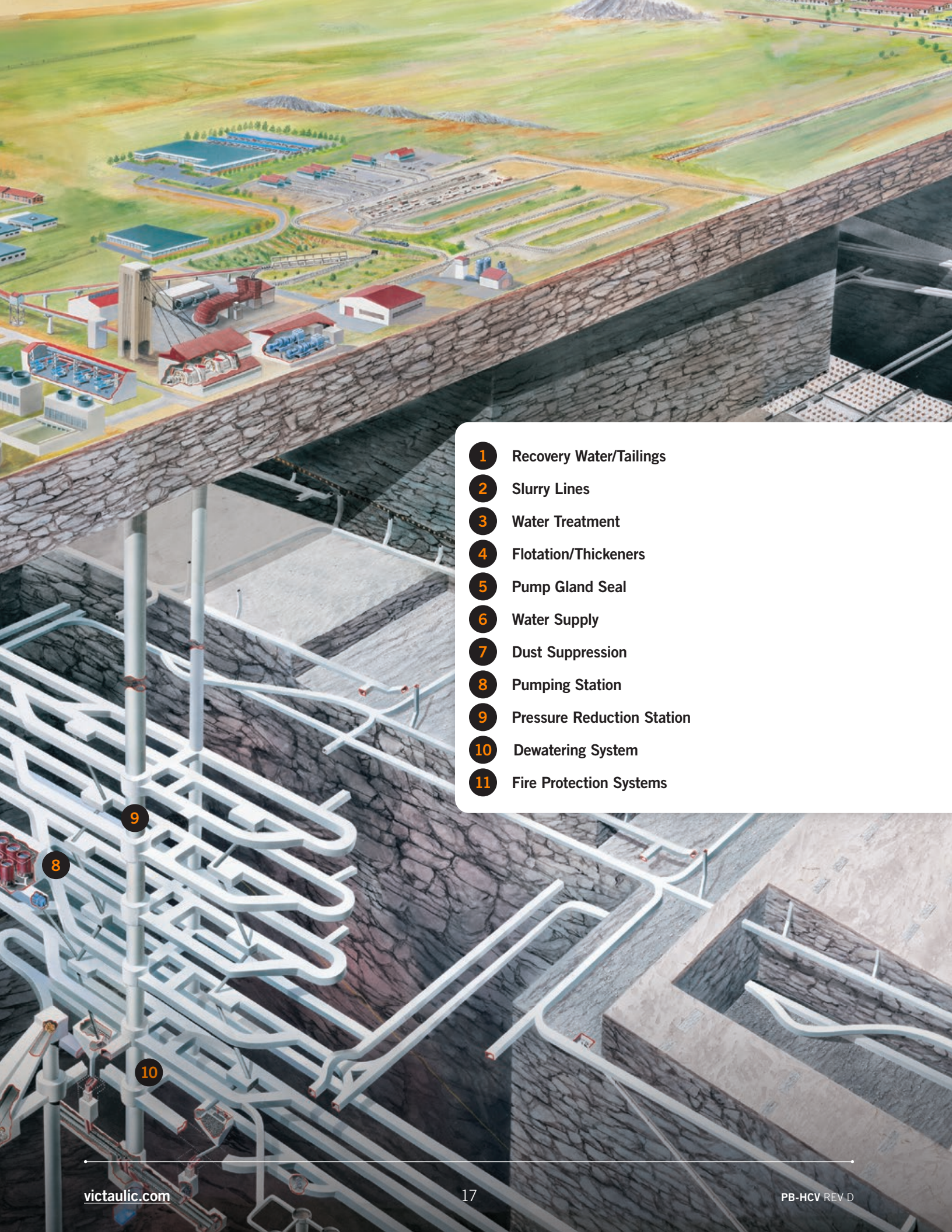
Developed in-house by BERMAD Engineers, this software optimizes the location and sizing of air valves in a specific project.

This software has been designed as an engineering tool, enabling every system designer to make an informed decision regarding model selection and placement.



WATER MANAGEMENT APPLICATIONS

EXAMPLE: UNDERGROUND MINE WITH FLOTATION PROCESS



- 1 Recovery Water/Tailings
- 2 Slurry Lines
- 3 Water Treatment
- 4 Flotation/Thickeners
- 5 Pump Gland Seal
- 6 Water Supply
- 7 Dust Suppression
- 8 Pumping Station
- 9 Pressure Reduction Station
- 10 Dewatering System
- 11 Fire Protection Systems

ENGINEERING CONFIDENCE INTO EVERY BUILD

Since 1919, Victaulic's innovative solutions and design services continue to increase construction productivity and reduce risk, ensuring projects are completed safely, on time and within budget. With more than 4,000 employees and 55 international facilities, Victaulic helps customers in 120 countries succeed in the global construction industry. Learn more about how our solutions engineer confidence into every build at victaulic.com.



U.S./World Headquarters

4901 Kesslersville Road
Easton, PA 18040 USA

victauliclocations.com



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