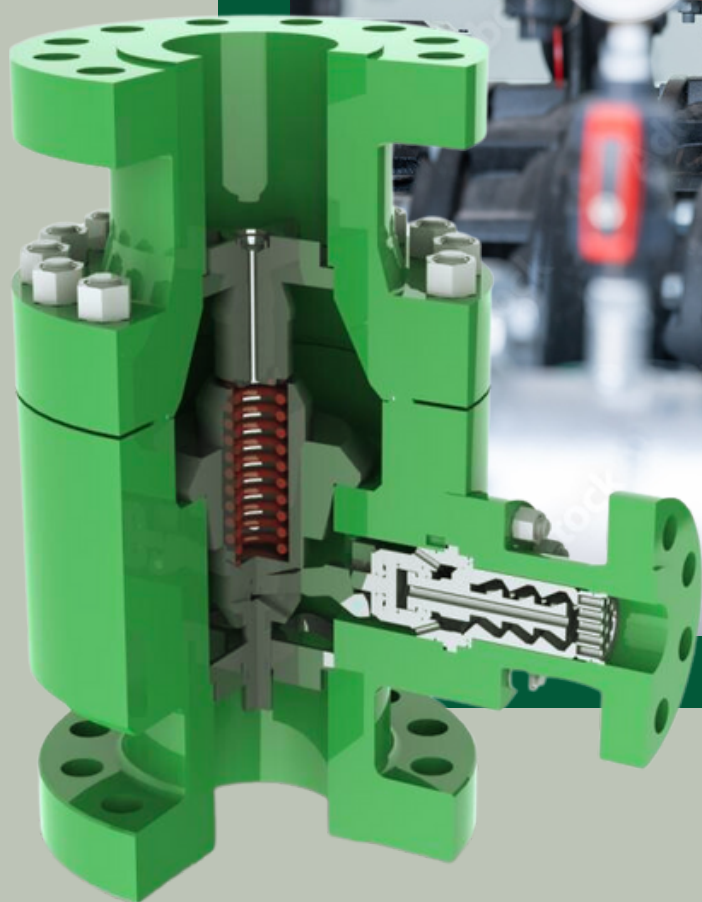


DATIAN ARC PUMP PROTECTION VALVES (AUTOMATIC RECIRCULATION) SERIES ZD



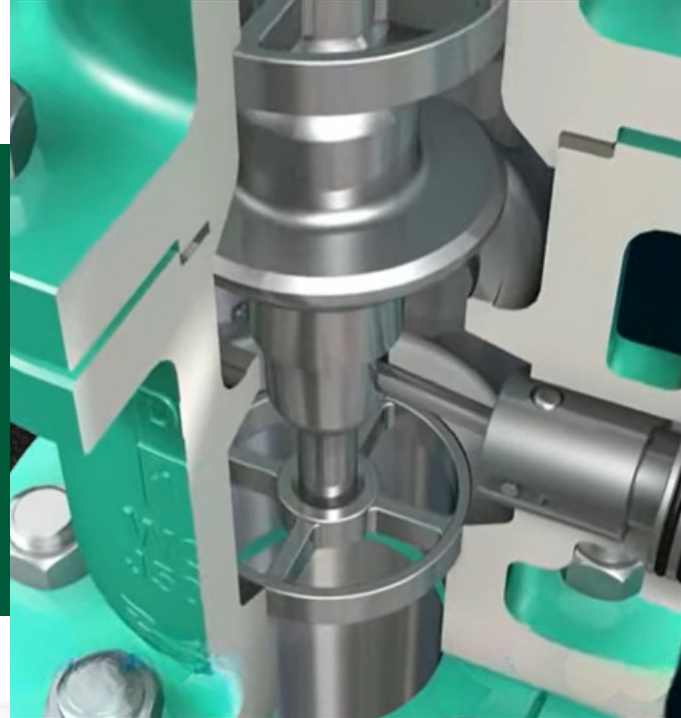
Your Reliable and Safe Choice for Pump Protection

DATIAN
SHANGHAI DATIAN VALVE

What is an ARC Valve?

ARC Valves by Datian Valve is a multifunctional valve that ensures a pre-determined minimum flow is assured through a centrifugal pump at all times.

www.acdamerica.net



GENERAL APPLICATION

The Automatic Recirculation Control (ARC) valve is a self contained, low maintenance and reliable device, engineered to protect centrifugal pumps against thermal damage and destruction.

It protects the centrifugal pump from overheating and cavitation, which can cause permanent damage if they run dry. The ARC Valve automatically protects the centrifugal pump when a pump body occurs cavitation damage or unstable (especially conveying hot water at low load operation).

WORKING PRINCIPLE

The working principle of an Automatic Recirculation Control Valve (ARC valve) is to ensure that a pre-determined minimum flow is assured through a centrifugal pump at all times. This is important as centrifugal pumps suffer from overheating and cavitation and can be permanently damaged if they run dry.

The valve automatically protects the centrifugal pump when a pump body occurs cavitation damage or unstable (especially conveying hot water at low load operation). The valve is a special form of lift check valve installed downstream of boiler feed pumps. It ensures a minimum flow rate in the event of low flow operation.

BENEFITS

1. Reduced Energy Waste

The Datian ARC valve ensures that the minimum required flow of the pump is maintained, which reduces energy waste caused by additional power output required to ensure system process flow plus recycle flow.

2. Maintenance Friendly

DATIAN ZD Series ARC valves are very maintenance friendly. The only maintenance required is the exchange of the soft-parts and the cleaning of the internals during the annual inspection and the exchange of springs every 3-5 years depending on the operating conditions.

3. Essential Safety

Datian ARC valves are designed to prevent overheating, serious noise, unstable and erosion damage of centrifugal pump under low load operation. They take up small space, reduce the possibility of high-speed fluid malfunction to a minimum, and have lower installation and maintenance costs.

FEATURES

- Precise Recirculation control.
- Stable design.
- Integral check valve.
- Low maintenance.
- Self-operating.
- Ease of installation.
- Suitable for all fluids.
- Dampening of pulsations.
- Multistage pressure letdown.
- Cavitation prevention.
- Eliminate external power sources or signals.
- Reliable performance

SPECIFICATION

- **ZDT: CL150# - 400#, SIZE 1" - 16"**
- **ZDL: CL150# - 600#, SIZE 1" - 20"**
- **ZDM: CL150# - 2500#, SIZE 1" - 20"**
- **ANSI B16.34 Class 150 to 2500.**
Options: DIN, BS, JIS, RTJ, FF flanges

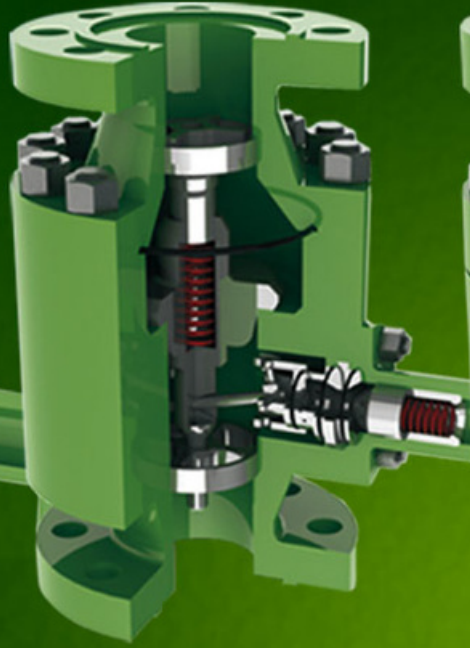
APPLICATION

- Chemical industry
- Petrochemical industry
- Steel factory
- Fire protection system
- Traditional power plant
- Shipment/shipping
- Paper-making industry
- Environmental protection.

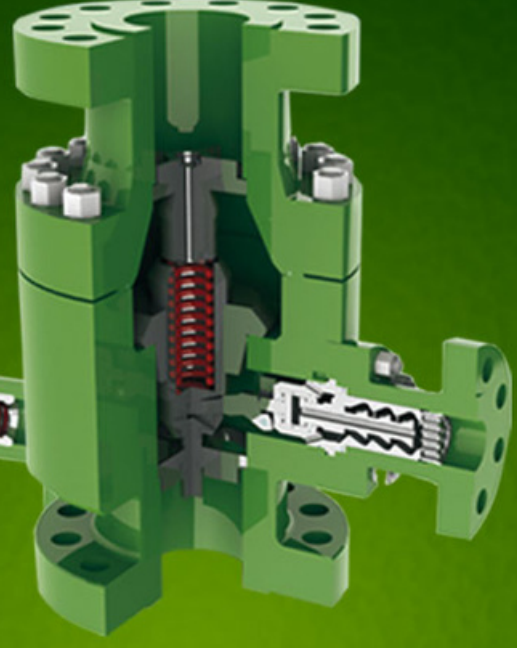
ZDT



ZDL



ZDM



ZDT MODEL

- Simple structure, low cost, long life, suitable for Low pressure Working conditions.
- Carbon Steel, Stainless Steel, 6Mo, Super Duplex, NACE. Other options contact us.
- Big flow of bypass, maximum flow is 60% of main flow, KV value can be adjusted.
- Bypass maximum operating pressure differential up to 4 MPa.
- Pressure CL150# - 400#, Size 1" - 16".

ZDL MODEL

- Multi-orifice cage bypass, low noise, suitable for middle and low pressure conditions.
- Carbon Steel, Stainless Steel, 6Mo, Super Duplex, NACE. Other options contact us.
- Non-return valve function is standard, Maximum pressure differential up to 6 MPa.
- With venturi port main flow check valve structure, be applicable for complicated working conditions.
- Pressure CL150# - 600#, Size 1" - 20".
- Manual bypass operation is optional.

ZDM MODEL

- Multistage decompression to preventing cavitation, reducing velocity, suitable for high pressure conditions.
- Carbon Steel, Stainless Steel, 6Mo, Super Duplex, NACE. Other options contact us.
- Non-return valve function is standard Maximum pressure differential up to 30 MPa.
- Pressure CL150# - 2500#, Size 1" - 20".
- Manual bypass operation is optional.

HOW TO SELECT

Use the following form on the next page to complete your process data for the appropriate ARC pump protection valve model for your application.

If you are not able to determine the valve model required for your application, please contact us at info@acdamerica.net for Datian ARC sizing and selection.

Here is the reason why
WHY CHOOSE US



Datian's ARC Valve ensures a pre-determined minimum flow is assured through a centrifugal pump at all times. It protects your pump from Overheating and Cavitation, reducing energy waste, maintenance-friendly, and essential safety.

DATIAN ARC PUMP PROTECTION VALVES (AUTOMATIC RECIRCULATION)
SIZING

To enable correct valve sizing for your application, please provide the following information:

Customer:..... E-Mail:
 Company:..... Qty Required:.....
 Project: Delivery Required:
 Location:..... Additional Info:
 Phone:..... Tags(s) ID:.....

PUMP FLOW

Normal - **Process** - flow: GPM
 Maximum - **Process** - flow: GPM
 Minimum - **Process** - flow [if to be considered]: (optional) GPM
 Minimum - **Pump protection** - (recirculation) flow: GPM

PUMP DISCHARGE PRESSURE

Pressure at Shut Off (zero) flow: psig
 Pressure at Normal - **Process** - flow: psig
 Pressure at Minimum - **Process** - flow: (optional) psig
 Pressure at Minimum - **Pump protection** - flow: psig
 Recirculation line (existing) - Back Pressure: psig

TEMPERATURE

Normal temperature at ARC Valve: Deg F
 Maximum temperature at ARC Valve: Deg F

FLUID DATA

Media	<input type="text"/>	Orientation of ARC Valve:	<input type="text"/>
Specific Gravity	<input type="text"/>	Desired Valve Size:	<input type="text"/>
Vapor Pressure	<input type="text"/> PSIA	Desired End Connections:	<input type="text"/>
Critical Pressure	<input type="text"/> PSIA	Pressure Class:	<input type="text"/>
Viscosity	<input type="text"/> cP	Desired Body Material:	<input type="text"/>
		Desired Seal Material:	<input type="text"/>
		Pump Drive Type:	<input type="text"/>

Comments:

- | | |
|---|--|
| NACE materials required? <input type="checkbox"/> | Certificate of Compliance for hydro test required? <input type="checkbox"/> |
| Flow test with Performance Certificate required? <input type="checkbox"/> | Magnetic Particle test required? <input type="checkbox"/> |
| Customer Inspection required prior to shipment? <input type="checkbox"/> | Radiograph Inspection required [specify scope]? <input type="checkbox"/> |
| | Certified Material Test Report (Pressure Containing Components only)? <input type="checkbox"/> |

Flow tests are conducted on all models, one per valve size with additional tests at additional cost.
 If flange drilling is other than ANSI, please specify in "Comments." Please include Pump Curve if available

DATIAN ARC PUMP PROTECTION VALVES (AUTOMATIC RECIRCULATION) SERIES ZD



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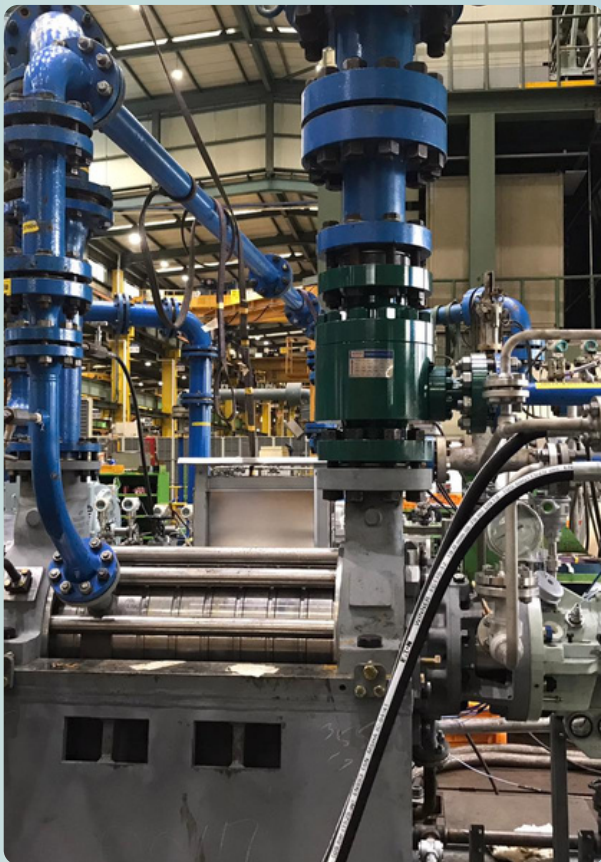
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Datian's Strategic Partner for America

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