

# ENTECH Non-Slam, Nozzle Check Valve



Manufactured in Voghera, Italy

## Product History

### MEER 1930s to 1960s

- Introduction of the axial flow nozzle check valve
- Utilized primarily for water service

### Mannesmann-Demag 1960s to 1990s

- Promoted a global image for advanced applications in the oil and gas industry

### ENTECH 1990s to 2001

- Purchased by First Reserve and implemented into the Dresser organization

### Dresser 2001 to 2005

- Introduced to natural gas transmission market and also the Western Hemisphere
- Co-branded as TOM WHEATLEY®

### CAMERON® 2005 to Present

- Product rationalized from having multiple variations to two models
- Introduced newly developed DRV-BN model

## Key Features

ENTECH™ nozzle check valves are used for backflow prevention.

The key features include:

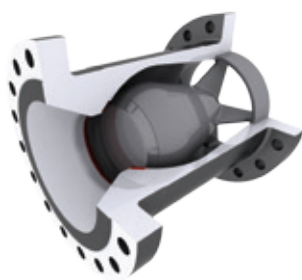
- Pressure class:
  - API 6D: 150 to 2500
  - API 6A: 2000 to 10,000
- Forged and cast body designs
- Metal-to-metal sealing
- Axial design
- No body penetrations
- Non-slam check valve

## Applications

- Compressor stations and gas export facility
- Pump stations and wellhead injection facilities
- Nuclear plants (reactor cooling system)
- Thermosolar plants
- Subsea application

## Product Offering

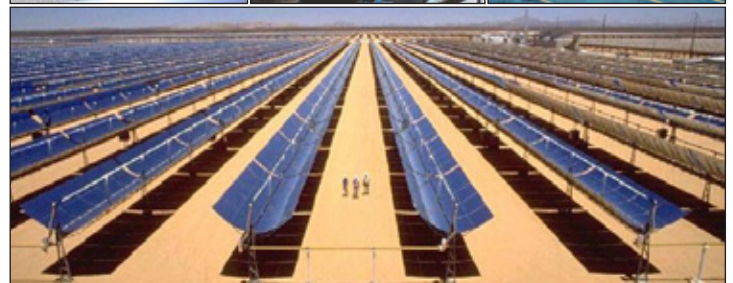
Size in.	Model
2 to 14	DRV-Z
16 and above	DRV-BN



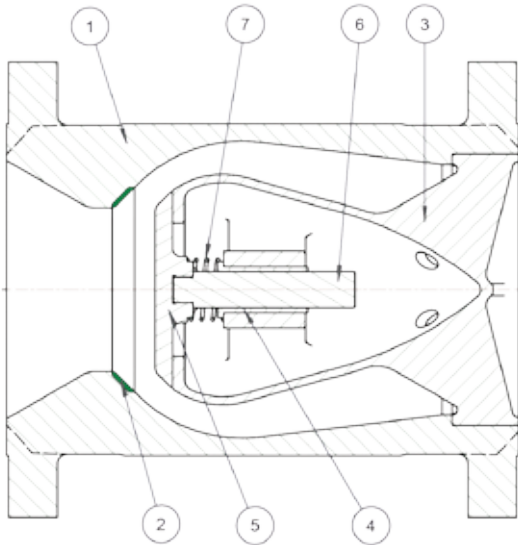
DRV-Z



DRV-BN



### Trim LA30



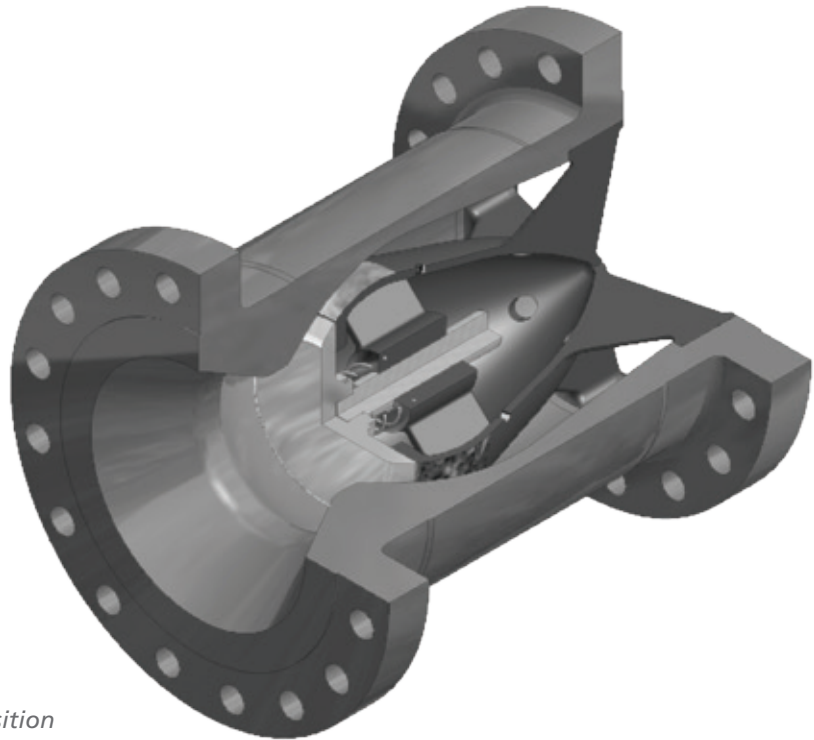
*Direction of flow*

### Materials List

Item	Part	Description	Note
1	Valve Body	ASTM A352 Grade LCC/ASTM A350 LF2	2
2	Seat Overlay	316 ST ST	
3	Diffuser	ASTM A352 Grade LCC/ASTM A350 LF2	2
4	Bushing	ASTM A564 630 (UNS S17400)	
5	Disc	316 ST ST	1
6	Disc Shaft	316 ST ST	1
7	Spring	INCONEL® X-750	

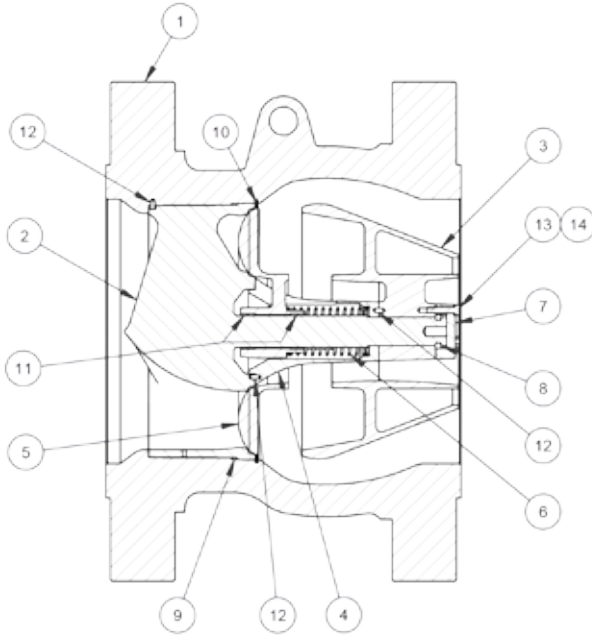
#### NOTES:

1. May also be manufactured in one piece
2. Body and diffuser can be forged or cast



*Valve shown in fully open position*

### Trim AAOO

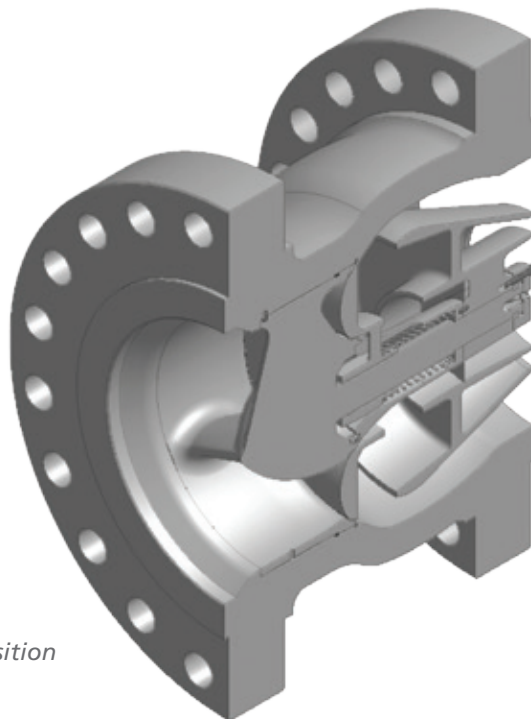


*Direction of flow*

### Materials List

Item	Part	Description	Note
1	Body	A351 CF8M/A182 F316	
2	Nozzle	A351 CF8M/A182 F316	Duplex IF $\geq$ ANSI 900 Class
3	Diffuser	A351 CF8M/A182 F316	
4	Spacer	A351 CF8M/A182 F316	
5	Disc	A351 CF8M/A182 F316	
6	Spring	INCONEL X750	
7	End Cap	A182 F316	
8	Split Ring	17-4 PH	
9	Graphite Seal	Graphite	
10	Retaining Ring	INCONEL X750	
11	Bearing	316/PTFE	DU Type
12	Location Pins	316 ST ST	
13	Bolt	B8M	
14	Lock Washer	316 ST ST	

NOTES:  
No seat overlay required as integral with body

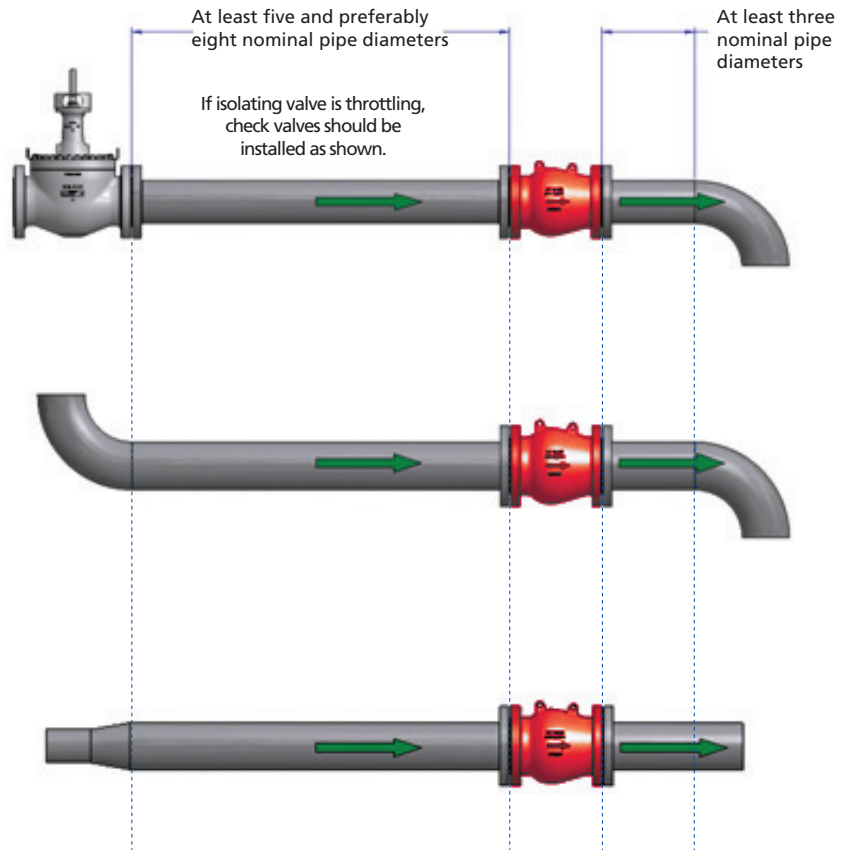


*Valve shown in fully closed position*

## Installation Guidelines

The nozzle check valve should be installed a minimum of five diameters and preferably eight diameters downstream of a flow impediment (i.e. valve, reducer or bend etc.), to ensure a good flow pattern at the entry to the nozzle check valve.

The nozzle check valve also should be installed at least three diameters upstream of a bend or reducer to avoid choked flow conditions, which can prevent the full opening of the check valve.



The nozzle check valve can be installed on the upstream side of isolating valves. If the isolating valve is throttling, clearance as shown should be allowed to ensure full pressure recovery after the nozzle check valve.

The nozzle check valve can be installed closer to the inlet of the isolating valve if it is full port and fully open.

