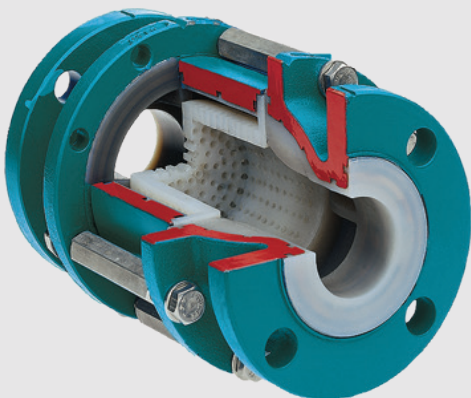
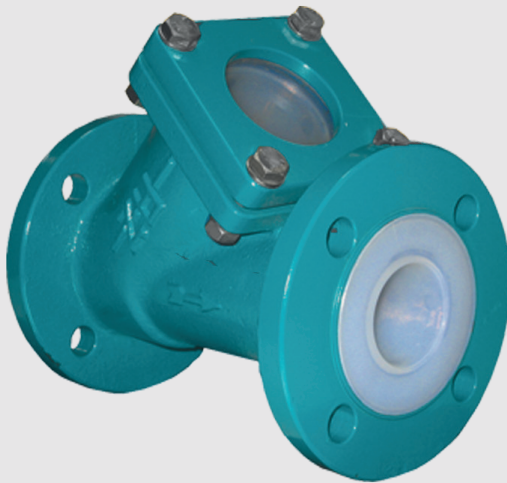


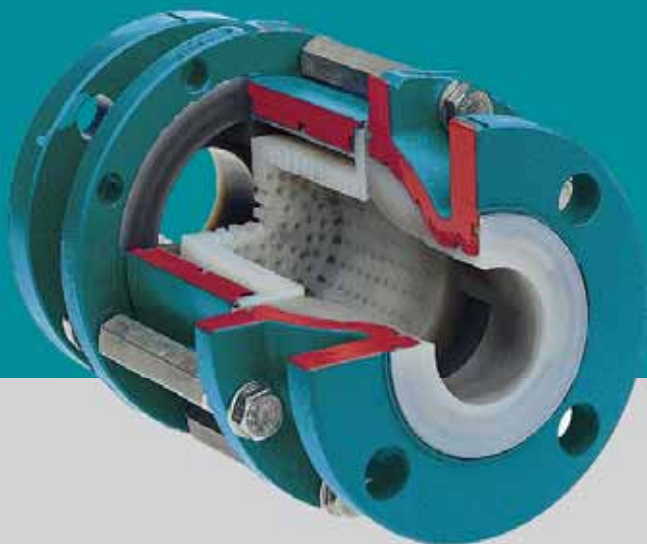
## Piping accessories

Ball check valves, strainers and sight glasses



# Type BASKET & Type DELTA-SF

## Strainer with lining



Type BASKET

- easy and quick exchange of filter basket
- high corrosion resistance
- minimum 3 mm PFA / FEP lining

DN 15 - 250 / PN 10 - 40  
NPS ½ - 4 / Class 150

### Design characteristics

- resistant to chemicals
- vacuum-capable
- mesh width 3 mm
- filter basket made of PFA / FEP / PTFE available as spare parts

### Options

- filter basket in other mesh width <> 3mm (BASKET)
- body in special materials
- other lining materials

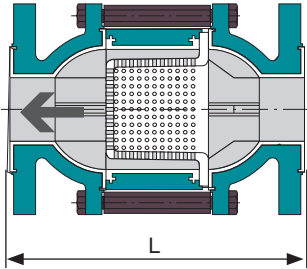
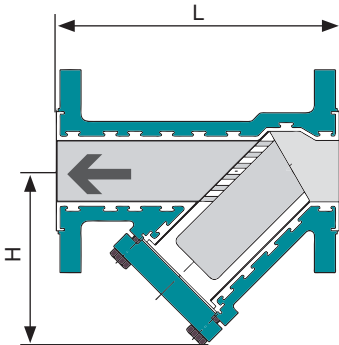


Type DELTA-SF

Body	Materials		Basket
	Lining	T <sub>max</sub> [C°]	
Ductile Iron	PFA	210	PFA
	FEP	150	FEP
	PFA conductive	125	

# Type BASKET & Type DELTA-SF

## Technical information

Type BASKET				Type DELTA-SF				
								
DIN EN 558	DN	PN**	L [mm]	DIN EN 558	DN	PN**	L [mm]	H [mm]
	15	10-40	130		15	10-40	130	100
	20	10-40	150		20	10-40	150	100
	25	10-40	160		25	10-40	160	10
	32	10-40	180		32	10-40	180	*
	40	10-40	200		40	10-40	200	120
	50	10-40	230		50	10-40	230	160
	65	10-40	290		65	10-40	290	*
	80	10-40	310		80	10-40	310	185
	100	10/16	350		100	10-40	350	220
ASME B16.5	NPS	Class**	L [mm]	ASME B16.5	NPS	Class**	L [mm]	H [mm]
	1	150	160		1"	150	127	100
	1½	150	*		1½"	150	*	*
	2	150	230		2"	150	178	150
	3	150	310		3"	150	203	200
ASME B16.5	4	150	350	ASME B16.5	4"	150	229	230
	<b>Features</b> <ul style="list-style-type: none"> <li>exchangeable filter basket</li> <li>low pressure drops, flow area corresponds to size of nominal bore</li> </ul>				<b>Features</b> <ul style="list-style-type: none"> <li>easy and quick exchange of filter basket</li> </ul>			

\*) on request

\*\*\*) higher pressure load on request

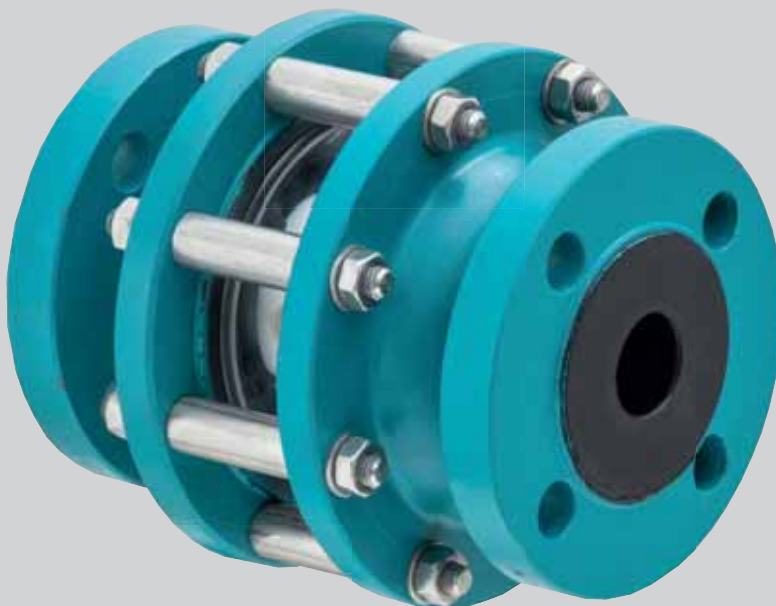
# Type DELTA & Type GLOBUS

## Ball check valve with lining



### Type DELTA-SG

with sightglass  
(lining: PFA)



### Type GLOBUS-SG

with sightglass  
(lining: conductive PFA)

- robust, tight execution
- high corrosion resistance
- minimum 3 mm PFA / FEP lining

DN 15 - 250 / PN 10 - 40

NPS ½ - 4 / Class 150

### Design characteristics

- resistant to chemicals
- vacuum-capable
- standard design with solid ball

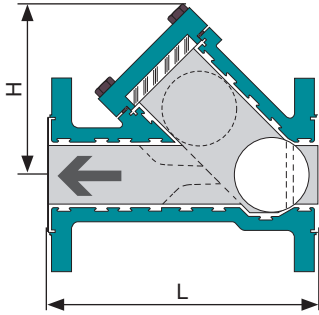
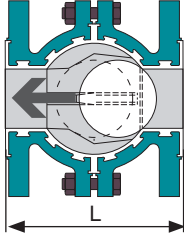
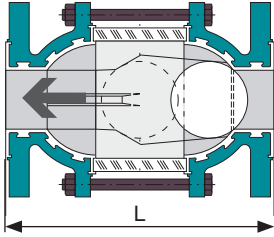
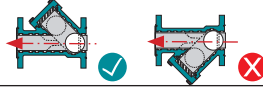







### Options

- sightglass (borosilicate) for visual function control
- heating jacket (DELTA)
- with hollow ball which allows the valve to function as an air relief valve in vertical pipeline 90°
- body in special materials
- other lining materials

Body	Materials		Ball
	Lining	T <sub>max</sub> [C°]	
Ductile Iron	PFA	210	PTFE
	FEP	150	
	PFA conductive	125	

# Type DELTA & Type GLOBUS

## Technical information

Type DELTA (without sightglass) Type DELTA-SG (with sightglass)					Type GLOBUS (without sightglass)				Type GLOBUS-SG (with sightglass)								
																	
DIN EN 558	DN	PN**	L [mm]	H [mm]	DIN EN 558	DN	PN**	L [mm]	DIN EN 558	DN	PN**	p <sub>max</sub> ** [bar]	L [mm]				
	15	10-40	130	100		15	10-40	115		15	16	15,8	130				
	20	10-40	150	100		20	10-40	120		20	16	13,5	150				
	25	10-40	160	100		25	10-40	125		25	16	11,2	160				
	32	10-40	180	*		32	10-40	130		32	16	8,7	180				
	40	10-40	200	120		40	10-40	140		40	16	11,9	200				
	50	10-40	230	160		50	10-40	150		50	10	9,0	230				
	65	10-40	290	*		65	10-40	170		65	10	7,7	290				
	80	10-40	310	185		80	10-40	180		80	10	6,2	310				
ASME B16.5	NPS	Class**	L [mm]	H	ASME B16.5	NPS	Class**	L [mm]	ASME B16.5	NPS	Class**	p <sub>max</sub> ** [bar]	L [mm]				
	1"	150	127	100		1"	150	125		1"	150	11,2	160				
	1½"	150	*	*		1½"	150	*		1½"	150	*	*				
	2"	150	178	150		2"	150	150		2"	150	9,0	230				
	3"	150	203	200		3"	150	180		3"	150	6,2	310				
	4"	150	229	230		4"	150	190		4"	150	4,8	350				
	Installation instruction	Ball riser must point upwards when valve is installed horizontally. When installed in vertical position, the riser must point diagonally upwards.				Condition	<ul style="list-style-type: none"> <li>The pipe diameter must not be reduced after the check valve (in flow direction).</li> <li>For vertical installation, the check valve type DELTA is recommended</li> <li>Automatically closing in vertical or almost vertical (60° - 90°) installation. When installed horizontally (0°) resp. (up to 30°) the valve closes automatically if the backflow velocity is 1,5 m/sec. (basis = water).</li> </ul>										
		0°					0°										
		30°					30°										
60°					60°												
90°				90°													

\*) on request

\*\*\*) higher pressure load on request

\*\*\*) type DELTA recommended

✓ possible installation

✗ installation not possible

○ installation position to function as an air relief valve with hollow ball

# Type OCULAR & Type ZIRKULAR

## Sightglass and tubular sightglass

- good visual control
- high corrosion resistance

DN 15 - 250 / PN 10 - 25

NPS ½ - 4 / Class 150 - 300



### Type OCULAR

with entry nozzle for turbulences

### Design characteristics

- $T_{max}$  220°C / 280°C (OCULAR)
- $T_{max}$  180°C (ZIRKULAR)

### Options (OCULAR)

- heating jacket
- connection for sightglass flushing
- glass-to-metal fused sightglass acc. to DIN 7079
- body in special materials

Materials	
Body	Sightglass
1.4408 / CF8M	borosilicate

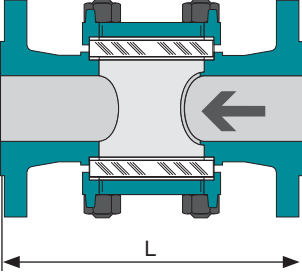
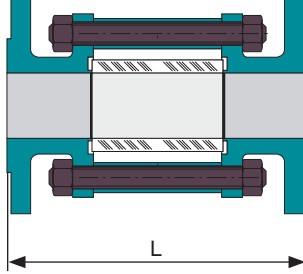


### Type ZIRKULAR

with smooth full bore design

# Type OCULAR & Type ZIRKULAR

## Technical information

Type OCULAR						Type ZIRKULAR				
T <sub>max</sub> 280°C						T <sub>max</sub> 180°C				
										
DIN 11869, DIN EN 558	DN	PN <sup>***</sup>	Standard p <sub>max</sub> [bar]**	High Pressure p <sub>max</sub> [bar]**	L [mm]	DIN 11869, DIN EN 558	DN	PN <sup>***</sup>	Standard p <sub>max</sub> [bar]**	L [mm]
	15	10-40	40	40	130		15	16	15,8	130
	20	10-40	*	*	150		20	16	13,5	150
	25	10-40	25	40	160		25	16	11,2	160
	32	10-40	*	*	180		32	16	8,7	180
	40	10-40	16	40	200		40	16	11,9	200
	50	10-40	16	40	230		50	10	9,0	230
	65	10-40	*	*	290		65	10	7,7	290
	80	10-40	16	40	310		80	10	6,2	310
	100	10-40	16	25	350		100	10	4,8	350
ASME B16.10	NPS	Class <sup>***</sup>	Standard p <sub>max</sub> [bar]**	High Pressure p <sub>max</sub> [bar]**	L [mm]	ASME B16.10	NPS	Class <sup>***</sup>	Standard p <sub>max</sub> [bar]**	L [mm]
	1	150 / 300	25	40	160		1	150 / 300	11,2	160
	1½	150 / 300	16	40	200		1½	150 / 300	11,9	200
	2	150 / 300	16	40	230		2	150 / 300	9,0	230
	3	150 / 300	16	40	310		3	150 / 300	6,2	310
	4	150 / 300	16	25	350		4	150 / 300	4,8	350
	6	150 / 300	16	-	480		6	150 / 300	*	*
	8	150 / 300	*	*	600		8	150 / 300	*	*
10	150 / 300	*	*	730	10	150 / 300	*	*		

\*) on request

\*\*\*) maximal pressure for standard design / high pressure design

\*\*\*\*) higher pressure load on request

# Type OCULAR-A & Type ZIRKULAR-A

## Sightglass and tubular sightglass with lining

- very good visual control
- high corrosion resistance
- minimum 3 mm PFA / FEP lining

DN 15 - 250 / PN 10 - 25  
NPS ½ - 4 / Class 150



**Type OCULAR-A**  
with entry nozzle for turbulences

### Design characteristics

- resistant to chemicals
- vacuum-capable

### Options

- heating jacket (OCULAR-A)
- connection for sightglass-flushing (OCULAR-A)
- body in special materials
- other lining materials

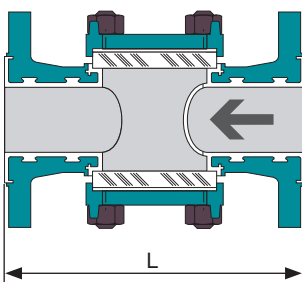
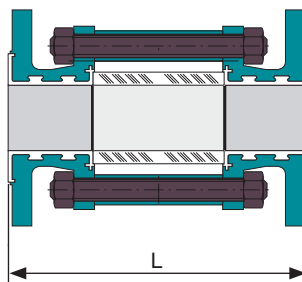


**Type ZIRKULAR-A**  
with smooth full bore design

Body	Materials		Sightglass
	Lining	T <sub>max</sub> [C°]	
Ductile Iron	PFA	210	borosilicate
	FEP	150	
	PFA conductive	125	

# Type OCULAR-A & Type ZIRKULAR-A

## Technical information

Type OCULAR-A				Type ZIRKULAR-A				
								
DIN EN 568-1	DN	PN	L [mm]	DIN EN 568-1	DN	PN	$p_{max}^{**}$ [bar]	L [mm]
	15	10-25	130		15	16	15,8	130
	20	10-25	150		20	16	13,5	150
	25	10-25	160		25	16	11,2	160
	32	10-25	180		32	16	8,7	180
	40	10-25	200		40	16	11,9	200
	50	10-25	230		50	10	9,0	230
	65	10-25	290		65	10	7,7	290
	80	10-25	310		80	10	6,2	310
	100	10-25	350		100	10	4,8	350
ASME B16.5	NPS	PN	L [mm]	ASME B16.5	NPS	PN	$p_{max}^{**}$ [bar]	L [mm]
	1"	150	160		1"	150	11,2	160
	1½"	150	200		1½"	150	11,9	200
	2"	150	230		2"	150	9,0	230
	3"	150	310		3"	150	6,2	310
4"	150	350	4"	150	4,8	350		

\*) on request

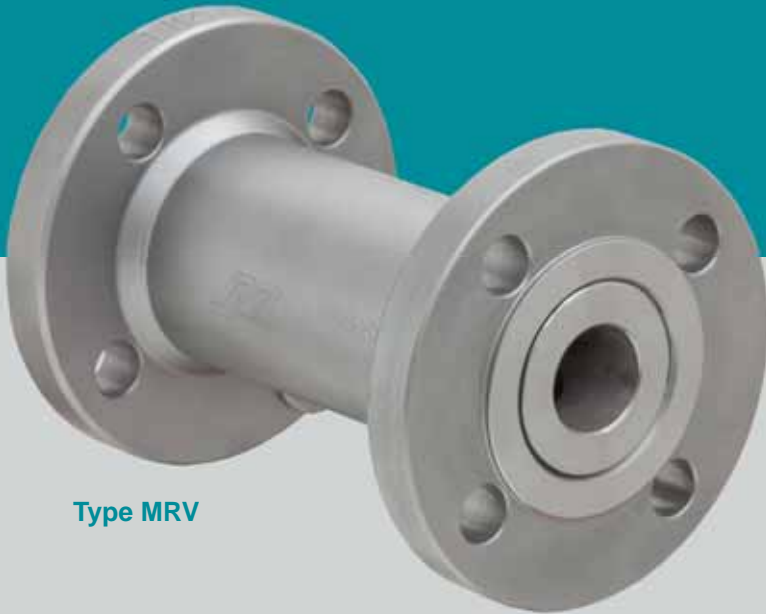
\*\*\*) higher pressure load on request

# Type MRV

## Ball check valve

- solid design
- reliably tight

DN 15 - 250 / PN 10 - 40  
NPS ½ - 10 / Class 150



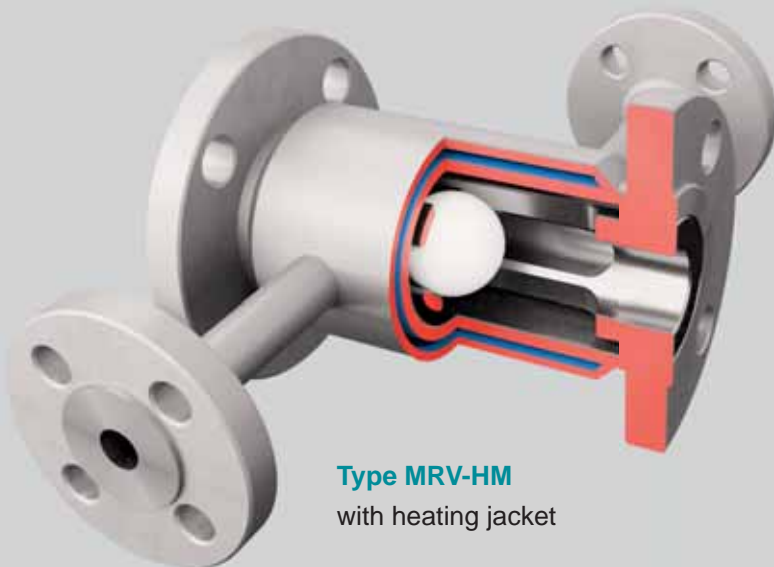
Type MRV

### Design characteristics

- metal design
- $T_{max}$  180°C
- body material stainless steel, others on request
- standard design with solid ball

### Options

- heating jacket
- with hollow ball which allows the valve to function as an air relief valve in vertical pipeline 90°
- body in special materials



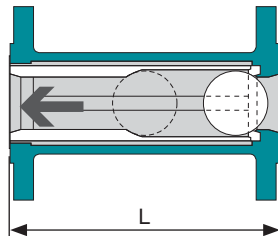
Type MRV-HM  
with heating jacket

Materials	
Body	Ball
1.4571 / AISI 316Ti	PTFE

# Type MRV

## Technical information

### Type MRV



DIN EN 558	DN	PN**	P <sub>max</sub> [bar]**	L [mm]
	15	10-40	25	130
	20	10-40	25	150
	25	10-40	25	160
	32	10-40	25	180
	40	10-40	25	200
	50	10-40	25	230
	65	10-40	16	290
	80	10-40	16	310
	100	10-40	16	350
	150	10-40	16	350
200	10-40	16	*	
250	10-40	16	*	
ASME B16.5	NPS	Class**	P <sub>max</sub> [bar]**	L [mm]
	1	150	25	160
	1½	150	25	200
	2	150	25	230
	3	150	16	310
	4	150	16	350
	6	150	16	350
	8	150	16	*
10	150	16	*	

**Installation instruction**

- The pipe diameter must not be reduced after the check valve (in flow direction).
- Automatically closing in vertical or almost vertical (60° - 90°) installation. When installed horizontally (0°) resp. (up to 30°) the valve closes automatically if the backflow velocity is 1,5 - 2,5 m/sec. (basis = water).

0°	
30°	
60°	
90°	

\*) on request

\*\*\*) higher pressure load on request

\*\*\*\*) type DELTA recommended

possible installation

installation not possible

installation position to function as an air relief valve with hollow ball