

Check valves wafer type with disk shutter



RD

DIN PN 16 — DN 125 to 200 mm
ANSI 125 - 150 — 5" to 8"

RD 11, 12

Application

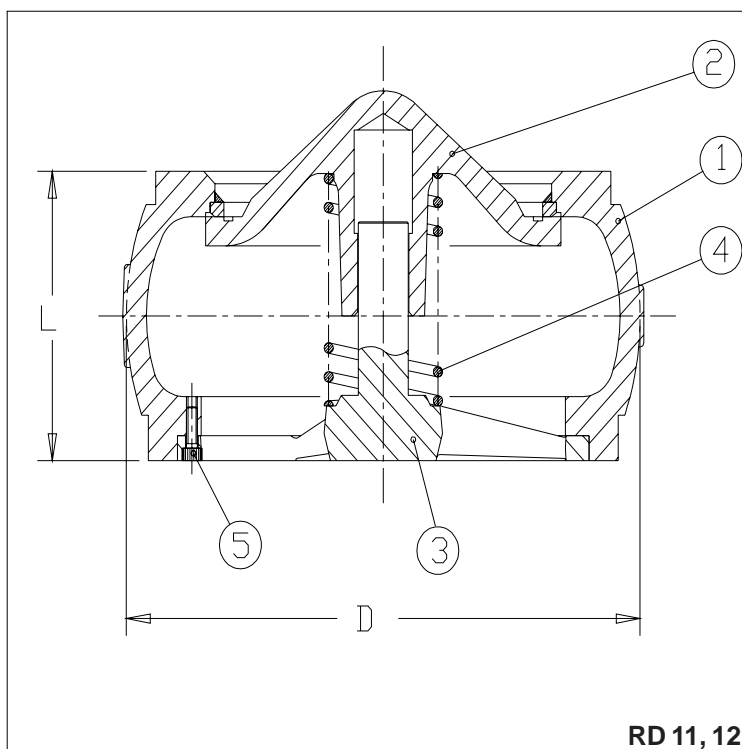
The RD check valves, with shutter in form of conical disk, are used to avoid the return of liquids, gases and steam in pipings. They are also indicated to be used as "foot valves" in pumping lines, ventilation or vacuum arrester elements and as a safety device in rotation lines.

Main characteristics

- Very short body. It Saves space;
- Simple assembly between flanges already exists in lines;
- Lighter weight, easy handling;
- Reduced stroke, softens the closing blow;
- Fast closing time. It minimizes reflux;
- Long useful life;
- Minimum maintenance;
- They can be installed in any position.

Presentation

It is basically composed with body, seat, disk, guide and spring.



Check

RD 11, 12

Technical competence, materials and connections

Model		RD 11			RD 12			
Nominal diameter	(mm)	125	150	200				
	(pol)	5"	6"	8"				
Max. service pressure	(bar)	16	13	11	16	14	13	
Correspondent max. temperature	(°C)	120	200	300	120	200	250	
Materials	1	Body	F° F° ASTM A 126 Gr. B			Bronze ASTM B 62		
	2	Disk	F° F° Nodular ASTM A 395			Bronze ASTM B 62		
	3	Complete guide	F° F° Nodular ASTM A 395			Bronze ASTM B 62		
	4	Spring	Stainless steel AISI 316					
	5	Fixation screw	DIN 912 Qual. 12.9			DIN 912 Qual. 12.9		
Connections		DIN PN 10/16 - ANSI 125/150						

Measures and weights

Model		RD 11			RD 12		
Nominal diameter	(mm)	125	150	200			
	(pol)	5"	6"	8"			
Measures	(mm)						
	L	90	105	140	110	125	160
	D*	200	254	340	202	250	302
Approximated weight	(kg)	7,0	10,0	19,0	9,6	13,0	23,5

*Diameter sized from top to top of "buds" of the body.

Installation

They can be installed in any position, realizing just the narrow that indicates the flow, on the body.
 Provides the valve with the gasket in each face, put it between flanges and fix it, pressing the nuts on the screws. When installed to downstream of pumps or compressors driving to piston. A compressing chamber must be installed.

Optionals

- Synthetic rubber sealing (perbunam) or teflon;
- Filter type basket for RD 11, 12, used as foot foot valves;
- *The optional are supplied by means of price increase.**

Operation

The input flow pressure dislocates the disk (2) of the valve against the spring force (4) (see table "opening pressure") in direction to the opening, giving passage to the fluid. If the input flow is interrupted, the backpressure to the downstream dislocates the disk to the seat, closing the valve.
 The reduced stroke of the disk and the spring action decrease the closing time softening the closing blow and minimizing the reflux before complete blockage of the seat by the disk.

Opening pressure (em mbar)

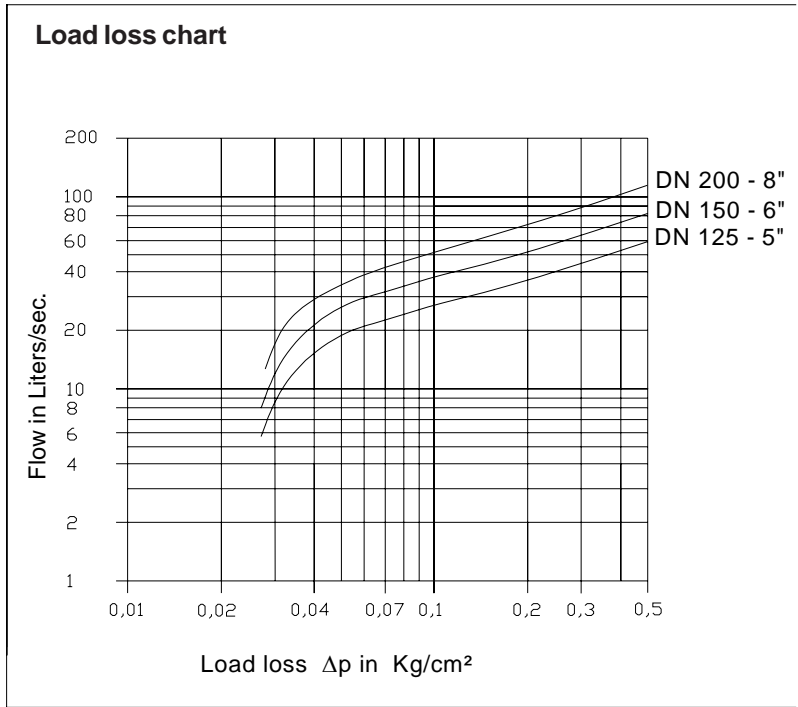
DN	Without spring	With spring		
		↑	→	↓
mm pol				
125 5"	9,7	29,4	19,7	10,0
150 6"	10,5	31,0	20,5	10,0
200 8"	11,2	32,4	21,2	10,0

Load loss chart

The chart curves prevails for water to 20 °C / 68 °F. To determine the load loss of other fluids, must be calculated the equivalent water flow, using the following formula.

$$V_w = \sqrt{\frac{\rho}{1000}} \cdot V \quad \text{onde}$$

- V_w = Equivalent water flow in l/sec.
- ρ = Fluid density (service condition) in kg/m³
- V = Fluid flow (service condition) in liters/sec.



The indicated values are based in provided spring and mounted in horizontal position. If the flow is vertical, variations can happen with no significance just within the partial opening limit.

Important

It is necessary to remember that in the most part of the industrial installations, the Δp of check valves does not make effect the general performance of the system and, therefore, does not make influences in the choice of the valve..

Data for sizing

ASCA will make pleasure the sizing. For this purpose must be supplied:
 - Pressure and service temperature;
 - Circulating fluid
 - Nominal diameter
 - Norm and class of pressure of the flanges between that the valve will be mounted.

Standard specification

Check valve RD.....from ASCA, with shutter in for of disk, according to prospect PR-02.20.10-l.
 Sealing..... "wafer" type for assembly between flanges, according to norm
 Pressure class.....
 nominal diameter.....
 Optionals.....

Resumed specification

Standard specification RD.....
 Sealing.....
 "Wafer" PN/CL
 DN.....
 Optionals.....

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