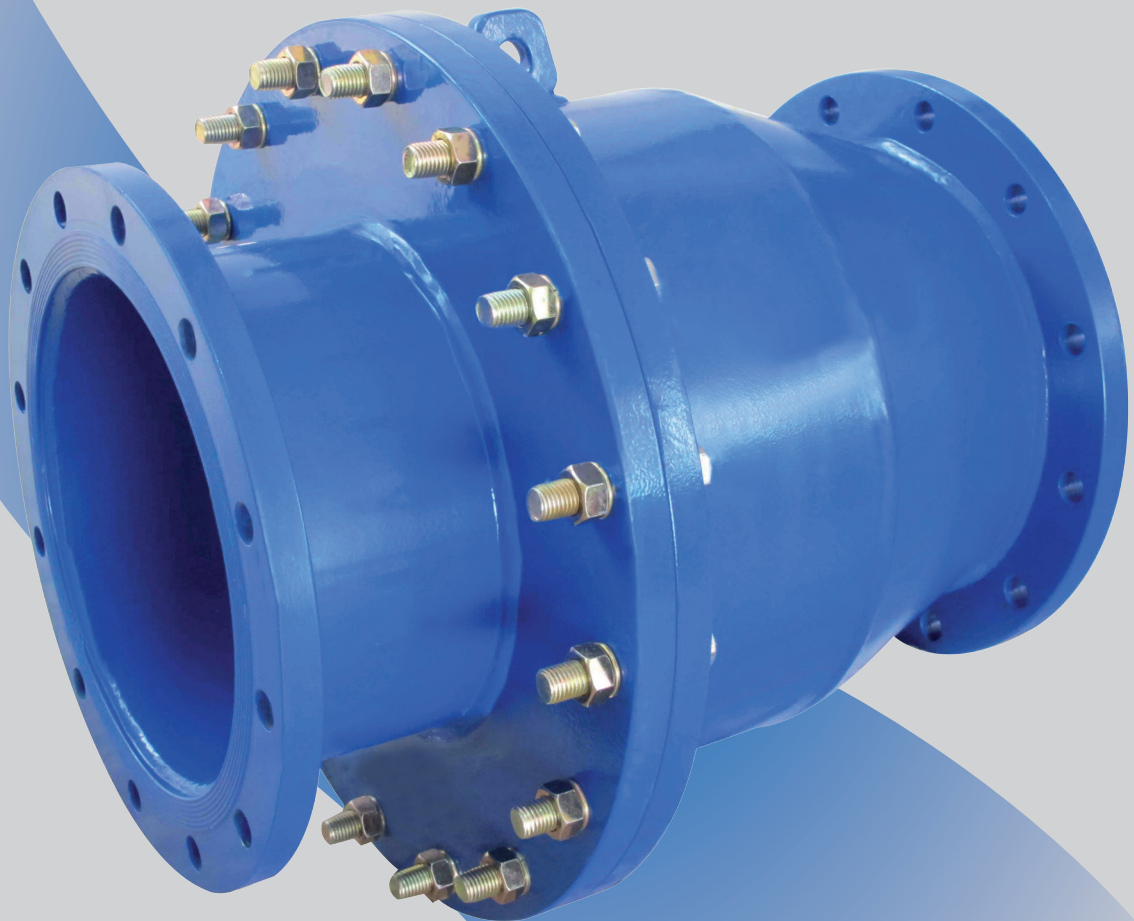




**NeroValves GmbH**

**Check Valves**



## Non-Slam Spring Type Check valve

### Check valve:

Check Valve (Non Return Valve) is a valve that due to the pressure difference between the sides which normally allows fluid flow through it in only one direction.

Check valve uses during the pipe drift and/or pump suction to fill the space of after and before the pump with fluid, thereby helps to the performance of the pump, also, this valve used in pipes connected to the secondary systems, like pipe branches that maybe pressure is more than main line, to prevent of entry of fluid from branches to the main line.

Check valve should be easily opened against fluid drift, and Head Loss should be small when valve is in full open position, also closing of the valve against return fluid should not cause inappropriate Hammer.

### Check Valves generally can be divided to two categories:

#### 1-check valve is closed by the force of fluid flow:

In this category there is no external force for closing, so, valve is slower than other kind check valves and there is possibility of inappropriate Hammer to the equipments, valves and fittings that have been installed before check valve, so, in this category possibility of pump damage is high and it is not recommended for pump stations.

#### 2-check valve is closes by the force of fluid flow and external force:

Closing time of this valve is faster than other, so, possibility of valves, pumps and fittings damage that have been installed before check valve will be too low.

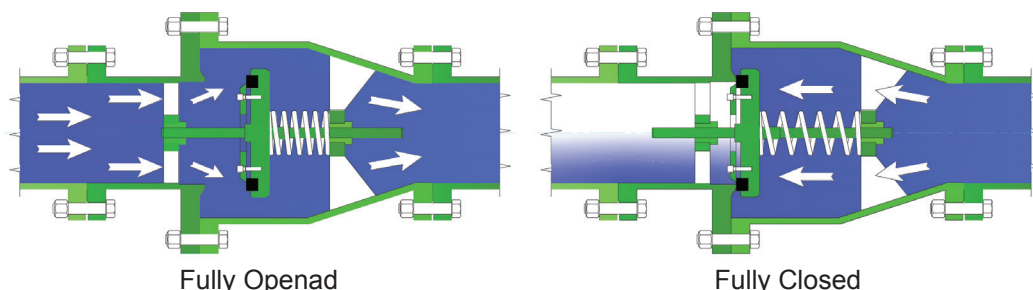
Two general kinds of this check valve is:

- Tilting Type Check Valve with Counter Weight
- Non Slam Spring Type Check Valve

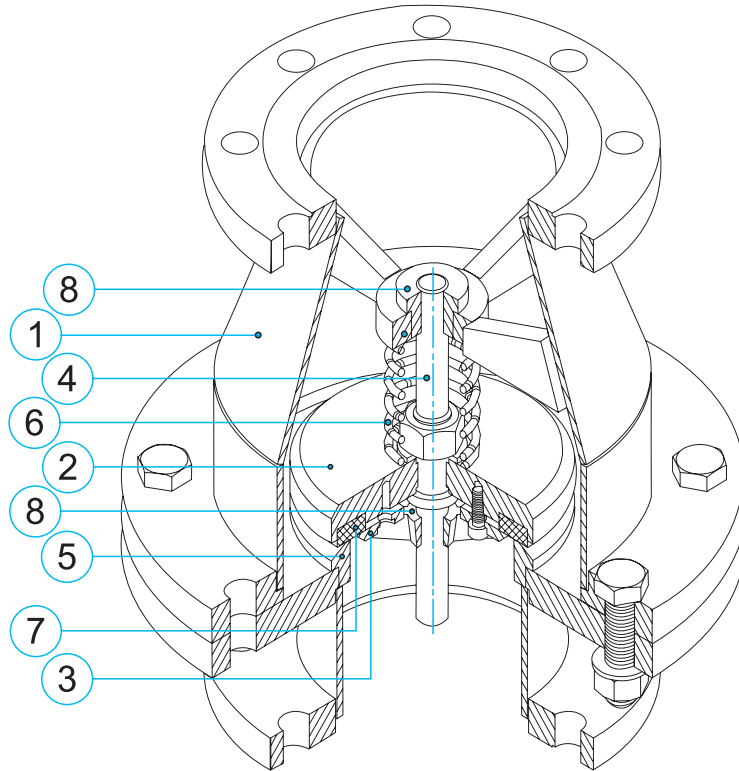
### We recommend choosing of Non Slam Spring Type Check Valve especially for pump stations because of below reasons:

- reducing the disc closing time because of low course of valve
- increasing the spring force for faster closing is very easy and low cost in compare with increasing the weight mass in Counter Weight Type Check valve.
- Non Slam Sprint Type doesn't have external vulnerable parts with compare to Counter Wight Type
- Butterfly Valve can install after Non Slam Spring Type Check Valve
- replace, repair and maintenance of Non Slam Spring Type is easy and faster than Counter Weight Type
- working life of valve with considering of spring and shaft material and suitable bearing formation is too high

### Operating Mechanism of Non Slam Spring Check Valve:



## Part's Name and Material



Flange Drilling as per ISO 7005-1( EN 1092 – 1, DIN 2501) or as per customer request

All parts are coated with electrostatic epoxy powder with minimum 250 micron

Face to Face as per DIN 3202 (ISO 5752)

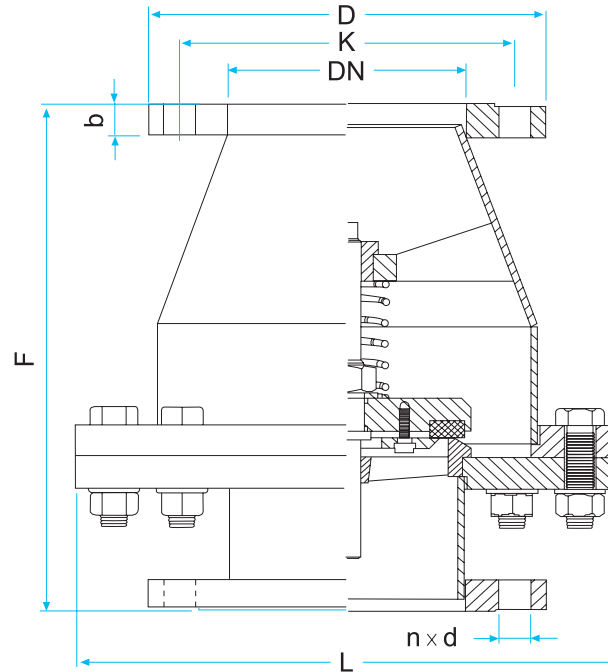
Final Hydraulic and body strength test as per ISO 5208 (DIN EN 12266-1)

No.	Part Name	Material
1	Body	ST 37 or Ductile iron
2	Disk	ST 37 or Ductile iron
3	Disk Retaining Ring	ST 37 or Ductile iron
4	Shaft	Stainless steel
5	Seat	Stainless steel
6	Spring	Stainless steel
7	Sealing	NBR or EPDM
8	Bushing	Bronze
9	Nuts & Bolts	Galvanized Steel or Stainless steel

We can manufacture with full stainless steel material as per request of customer.



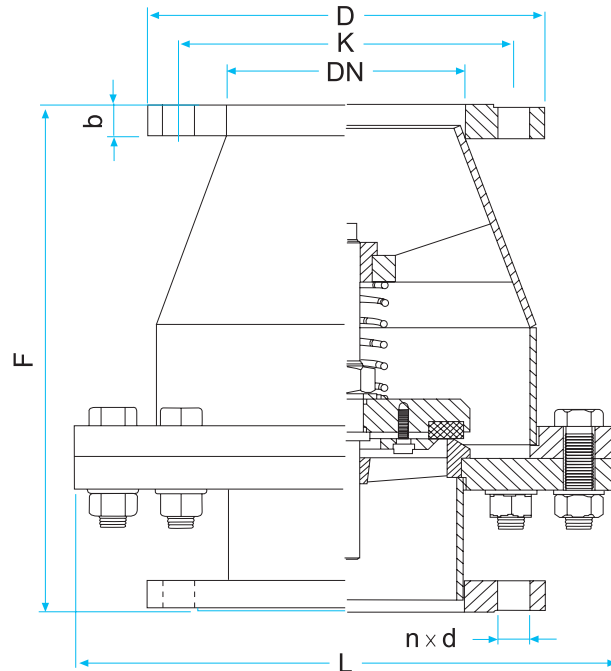
## Non Slam Spring Check Valve Dimension, PN10



DN(mm)	L(mm)	F(mm)	Flange Dimension PN10				Weight (kg)
			D	K	b	Nut & Bolt	
50	210	250	165	125	20	4 (M16)	33
65	210	270	185	145	20	4 (M16)	44
80	280	280	200	160	20	8 (M16)	44
100	335	330	220	180	20	8 (M16)	58
125	370	380	250	210	20	8 (M16)	70
150	470	390	285	240	25	8 (M20)	85
200	530	460	340	295	25	8 (M20)	115
250	585	530	395	350	25	12 (M20)	170
300	635	630	445	400	25	12 (M20)	195
350	690	690	505	460	25	16 (M20)	235
400	735	750	565	515	30	16 (M24)	315
450	785	810	615	565	30	20 (M24)	385
500	890	880	670	620	30	20 (M24)	445
600	990	1000	780	725	30	20 (M27)	560
700	1115	1130	895	840	30	24 (M27)	810
800	1270	1250	1015	950	30	24 (M30)	1250
900	1370	1380	1115	1050	35	28 (M30)	1520
1000	1475	1500	1230	1160	35	28 (M33)	2100

For size bigger than 1000mm, we give dimension as per customer request.

## Non Slam Spring Check Valve Dimension, PN16

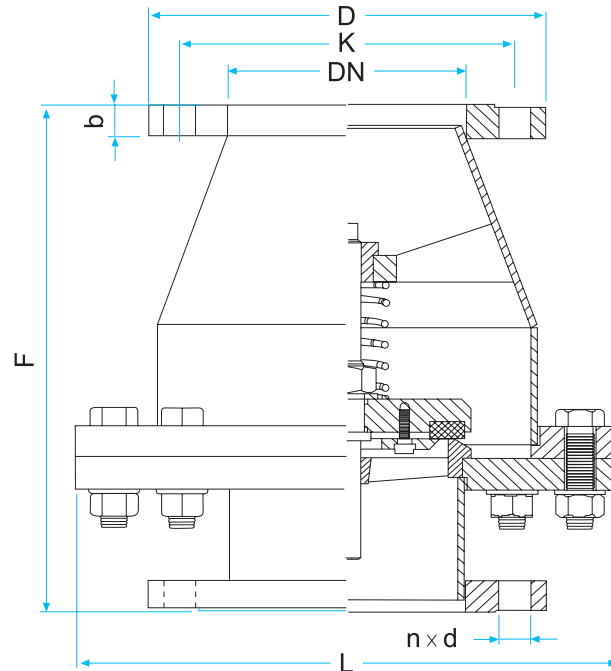


DN(mm)	L(mm)	F(mm)	Flange Dimension PN16				Weight (kg)
			D	K	b	Nut & Bolt	
50	210	250	165	125	20	4 (M16)	33
65	210	270	185	145	20	4 (M16)	44
80	280	280	200	160	20	8 (M16)	44
100	335	330	220	180	20	8 (M16)	58
125	335	380	250	210	20	8 (M16)	70
150	370	390	285	240	25	8 (M20)	90
200	470	460	340	295	25	12 (M20)	115
250	520	530	405	355	25	12 (M24)	178
300	585	630	460	410	30	12 (M24)	235
350	630	690	520	470	30	16 (M24)	260
400	690	750	580	525	30	16 (M27)	338
450	750	810	640	585	35	20 (M27)	405
500	810	880	715	650	35	20 (M30)	500
600	1010	1000	840	770	35	20 (M33)	630
700	1170	1130	910	840	35	24 (M33)	895
800	1280	1250	1025	950	40	24 (M36)	1280
900	1385	1380	1125	1050	40	28 (M36)	1590
1000	1485	1500	1255	1170	45	28 (M39)	2200

For size bigger than 1000mm, we give dimension as per customer request.



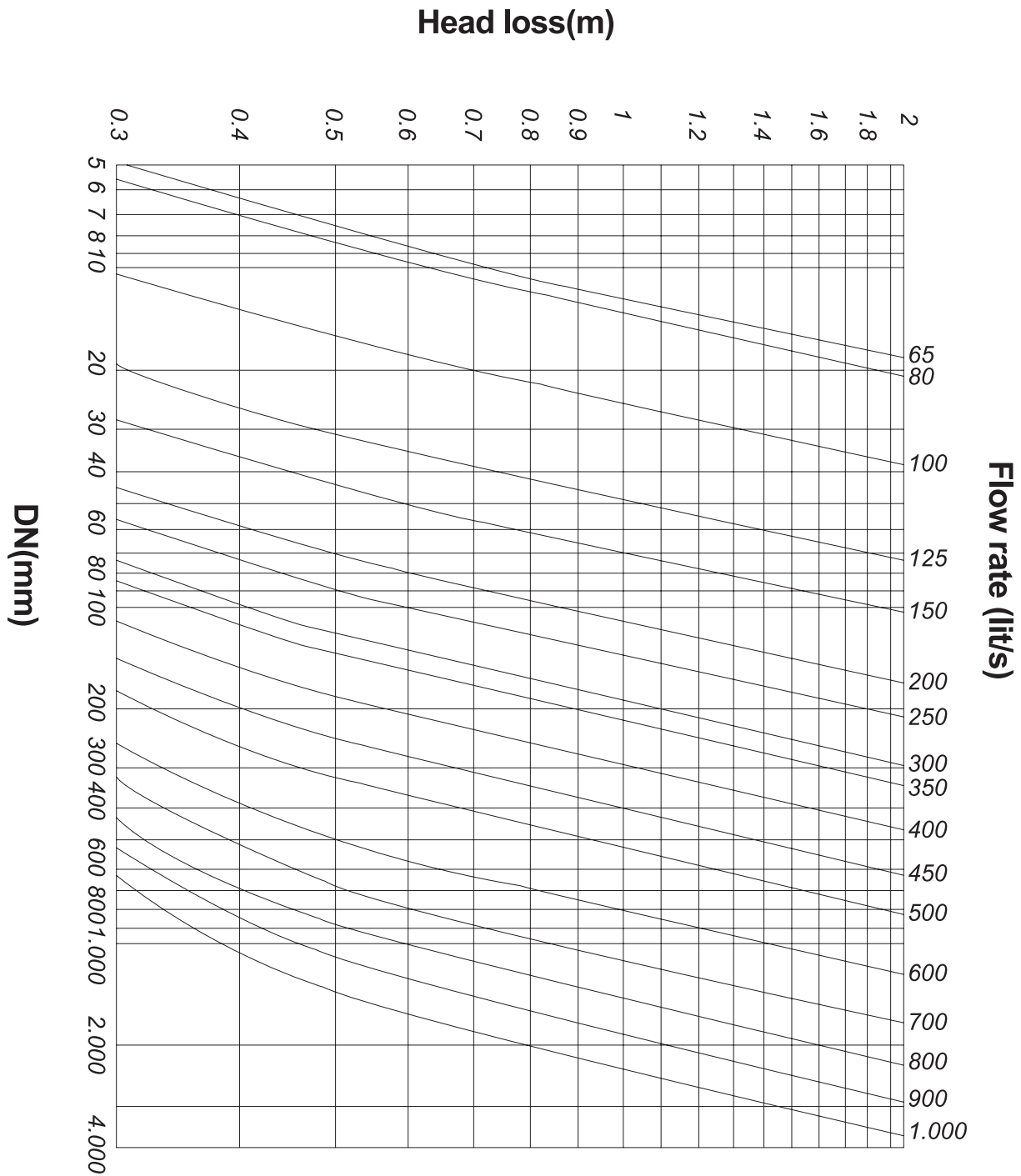
## Non Slam Spring Check Valve Dimension, PN25



DN(mm)	L(mm)	F(mm)	Flange Dimension PN25				Weight (kg)
			D	K	b	Nut & Bolt	
50	230	250	165	125	20	4 (M16)	33
65	230	270	185	145	20	4 (M16)	35
80	280	280	200	160	25	8 (M16)	44
100	335	330	235	190	25	8 (M20)	62
125	335	380	270	220	25	8 (M24)	75
150	385	390	300	250	30	8 (M24)	96
200	485	460	360	310	30	12 (M24)	132
250	545	530	425	370	30	12 (M27)	180
300	600	630	485	430	35	16 (M27)	252
350	650	690	555	490	40	16 (M30)	280
400	765	750	620	550	40	16 (M33)	420
450	815	810	670	600	40	20 (M33)	480
500	920	880	730	660	45	20 (M33)	585
600	1020	1000	845	770	45	20 (M36)	750
700	1180	1130	960	875	45	24 (M39)	1030
800	1280	1250	1085	990	50	24 (M45)	1350
900	1395	1380	1185	1090	60	28 (M45)	1690
1000	1495	1500	1320	1210	60	28 (M52)	2400

For size bigger than 1000mm and pressure more than 25 bar, we give dimension as per customer request.

## Non Slam Spring Check Valve Head Loss Chart



For size bigger than 1000mm and pressure more than 25 bar, we give dimension as per customer request.



## **NeroValves GmbH**

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