

Scope of Line and Features

- Sizes 12" - 60"
- ASME B16.34 & API 6D, pressure classes 150 - 4500
- API 6A pressure classes 2000 - 15000
- API 594 end-to-end dimensions
- Flanged, butt-weld ends, hub ends and specials
- Wide range of materials of construction available - consult factory for special application requirements
- Valve is offered in a wafer design. Consult factory

High Performance Non-Slam Nozzle Check Valve

The most important aspect of a check valve in a piping system is to protect equipment and prevent damage caused by backflow. Engineers today are very aware of the valve characteristics they need for their particular system installations. They require valves to close quickly and prevent flow reversal that can damage mechanical equipment and cause destructive events such as water hammer. Space and weight restrictions are very often also a significant concern. The Compac-Noz™ valve provides the industry with a short face to face, light weight, quick closing non-slam nozzle check valve.

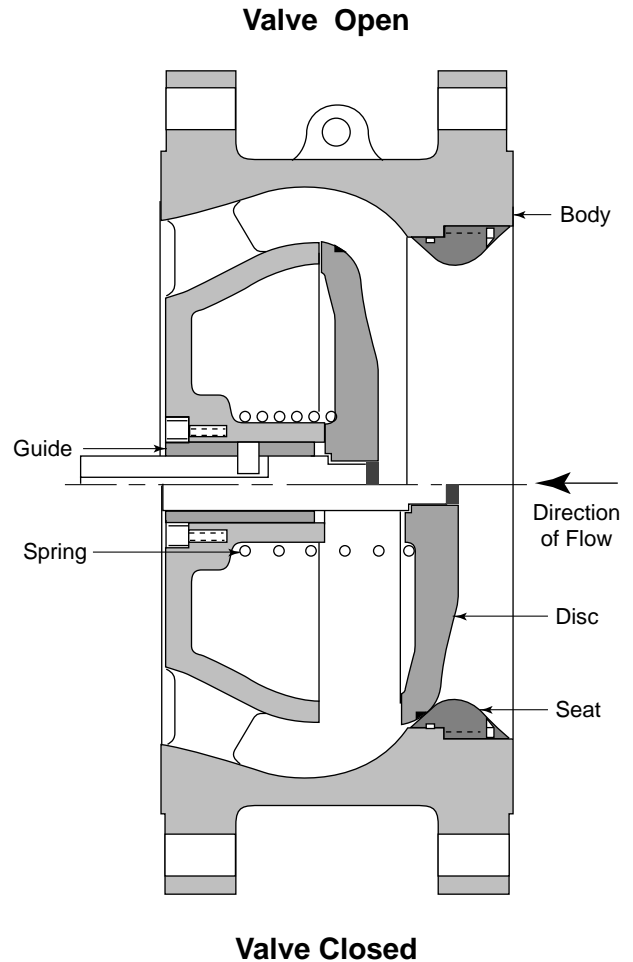
Features and Benefits

- Compact design and short face to face to meet API 594
- One moving part resulting in minimal wear and long service life
- Quick dynamic response reducing reverse velocity and minimizing damaging water hammer
- Short stroke to help in quick response
- Low pressure loss
- Choice of springs for specific critical velocity and valve response
- Suitable for reciprocating compressor service eliminating chatter
- Spring is internal and protected from process flow
- Preferred in centrifugal compressor service

The valve compact face to face and rigid design means it is easy to install and needs no special supports. Its lightweight, when compared to traditional nozzle type check valves, can also mean reduced cost of installation for the customer. The dynamic response of the valve has been verified by an independent testing institution.

The Compac-Noz™ valve represents the latest innovative addition to our extensive line of check valves. Crane has over thirty years of experience in the design, manufacture and application of check valves. These include the Duo-Chek®, Wafer Dual disc, and the Noz-Chek® standard and short pattern nozzle type check valves. Consult the factory for specific applications and literature.

Compac-Noz™ is designed and manufactured to the highest quality standards including API 6D, ISO-9001, Stoomwezen and TUV.



INDUSTRY STANDARDS	
API 594	End-to-End Dimensions
API 598	Pressure Testing & Inspection
ASME B16.34	Pressure/Temperature Ratings
API 6D	Pipeline Valves
API 6A	Production Valves



Compac-Noz™ Non-Slam Check Valves

Technical Information & Applications

APPLICATIONS

Gas Transmission

- Compressor Discharge

Power Generation

- Feedwater
- Cooling water
- Blowdown
- Steam

Petro-Chemical / Chemical Processing

- Extreme Units
- Propylene Units

Hydrocarbon Processing

- Catalytic Cracking
- Hydrotreating

Water Transmission

- Pipeline
- Pump Compressor Station

ADVANTAGES

Compac-Noz™ valves have the following advantages when compared to other nozzle valves:

- Ease of installation
- API 594 Face to Face
- Compact and lower weight
- Lower pressure drop compared with similar valves
- Dynamic performance matches standard nozzle type valves
- Ease of maintenance with longer valve life
- Only one seating surface with zero or low leakage rate
- Larger flow passages resulting in less flow erosion due to lower velocities

CHARACTERISTICS

Compac-Noz™ valves deliver an effective dynamic response under various flow deceleration conditions. The dynamic performance characteristics of the Compac-Noz™ valves are compared to swing check and dual plate spring-assisted check valves in Figure 1.

Testing

Each valve is hydrostatically tested to API 598. Cryogenic and fire tests can be conducted to satisfy customer requirements. Other testing capabilities include radiography, magnetic particle and liquid penetrant.

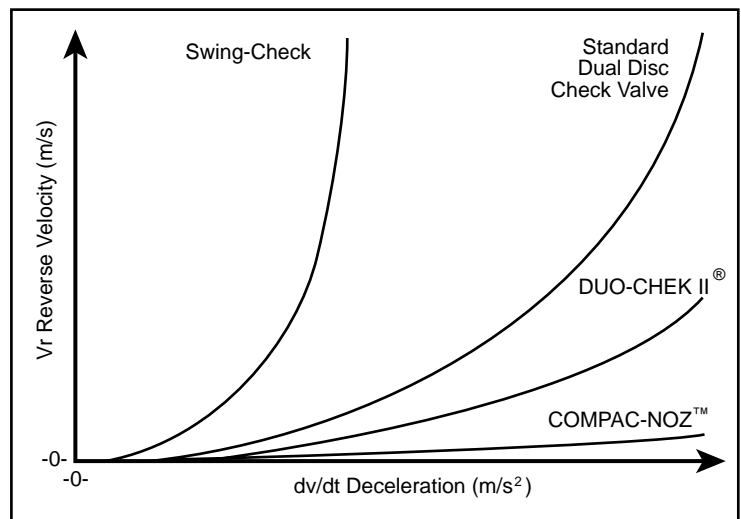


Figure 1.

Compac-Noz™ Non-Slam Check Valves



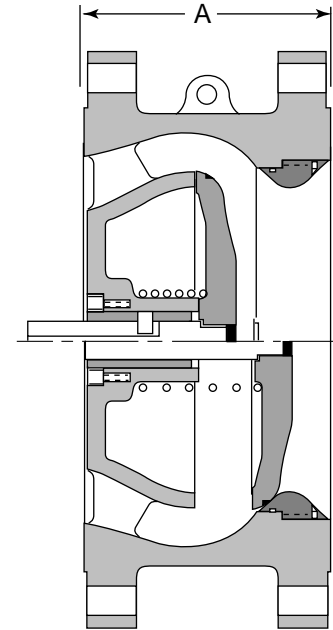
Dimensional Data

Class 150 RF

Size		A		Weight	
in	mm	in	mm	Lbs.	Kg.
12	300	7.12	181	254	115
14	350	7.25	184	320	145
16	400	7.50	191	419	190
18	450	8.00	203	551	250
20	500	8.62	219	694	315
24	600	8.75	222	970	440
30	750	12.00	305	1775	805
36	900	14.50	368	3075	1395
42	1050	17.00	432	4553	2065
48	1200	20.62	524	6691	3035
54	1350	21.25	540	9259	4200
60	1500	26.00	660	12732	5775

Class 300 RF

Size		A		Weight	
in	mm	in	mm	Lbs.	Kg.
12	300	7.12	181	397	180
14	350	8.75	222	540	245
16	400	9.12	232	695	315
18	450	10.38	264	882	400
20	500	11.50	292	1113	505
24	600	12.50	318	1742	790
30	750	14.50	368	2899	1315
36	900	19.00	483	4718	2140
42	1050	22.38	568	5379	2440
48	1200	24.75	629	7595	3445
54	1350	27.00	686	10604	4810
60	1500	31.50	800	14231	6455



Class 600 RF

Size		A		Weight	
in	mm	in	mm	Lbs.	Kg.
12	300	9.00	229	639	290
14	350	10.75	273	816	370
16	400	12.00	305	1135	515
18	450	14.25	362	1477	670
20	500	14.50	368	1830	830
24	600	17.25	438	2855	1295
30	750	19.88	505	4619	2095
36	900	25.00	635	7187	3260
42	1050	27.62	702	9546	4330
48	1200	40.50	1029	16689	7570
54	1350	45.25	1149	22950	10410
60	1500	49.25	1251	31063	14090

Class 900 RF

Size		A		Weight	
in	mm	in	mm	Lbs.	Kg.
12	300	11.50	292	959	435
14	350	14.00	356	1202	545
16	400	15.12	384	1863	845
18	450	17.75	451	2150	975
20	500	17.75	451	2712	1230
24	600	19.50	495	4630	2100
30	750	22.00	559	6922	3140
36	900	27.50	699	11453	5195
42	1050	31.50	800	15201	6895
48	1200	45.25	1149	26025	11805

Class 1500 RF*

Size		A		Weight	
in	mm	in	mm	Lbs.	Kg.
12	300	16.12	410	1863	845
14	350	19.69	500	2601	1180
16	400	20.88	530	3362	1525
18	450	22.44	570	4464	2025
20	500	23.62	600	5523	2505
24	600	28.50	724	9028	4095

*These valves do not meet API 594 to provide a double flange design. API 594 available in a lug design. Consult factory.

Notes

- Other sizes and pressure ratings available. Consult factory.
- Weights are approximate.



Compac-Noz™ Ordering Information

Figure Number System

Example



Description: 24" Style C, ASME Class 150, Carbon Steel Body, Buna-N Seal, Raised Face Flanges (No Modifications)

Valve Size

In Inches: For use with ASME, API and BS Flange Standards.

In Millimeters: For use with DIN, AS or JIS related valves. (Size preceded by "M" for DIN, "A" for AS or "J" for JIS)

Pressure Class (ASME B16.42 Series "A" or "B" to be specified over 24")

ASME		API		DIN / JIS		BS / AS	
Ordering No.	Pressure Class	Ordering No.	Rating	Ordering No.	PN Rating	Ordering No.	Table
15	150	21	2000	Flange Standard: M - DIN J - JIS	6 through 320	B - BS A - AS	A thru T
30	300	31	3000				
40	400	51	5000				
60	600	101	10000				
90	900	151	15000				
150	1500						
250	2500						
450	4500						

Standard Body & Disc Materials

Ordering Letter	Materials	
	Body	Disc
S	ASTM A 216 GR WCB Carbon Steel	Alloy Steel
C	ASTM A 351 GR CF8M 316 Stainless Steel	Stainless Steel
E	ASTM A 217 GR CA15 410 Stainless Steel	11-13 Chrome
DD	BS2789 GR 420/12** Ductile Iron	Stainless Steel
GC	ASTM A 352 GR LCC low temp. Carbon Steel	Alloy Steel
DZ	UNS S 31803 Duplex Stainless Steel	Duplex Stainless Steel

**Also available in ASTM A 395a

A variety of other body and disc materials are available and can be specified. Consult factory.

Seal

Operating temperature for general guidance only			
Ordering Letter	Seal Material	Operating Temperatures	
		°C	°F
M	Buna-N	-57 to 120	-70 to 250
V	Viton-B®	-40 to 204	-40 to 400
*P	Metal	-257 to 537	-450 to 1000
T	PTFE	-196 to 204	-328 to 400
Z	Nitrile A171	-57 to 120	-70 to 250

® Viton Registered Trade Mark E.I. Dupont

* Metal seals may be furnished as integral or special overlay materials are available.

End Connections

Ordering Letter	Connections
F	Flanged-Raised Face
G	Grayloc® End
P	Flanged Smooth Finish
R	Flanged Ring Joint
W	Butt Weld

®Grayloc Registered Trade Mark Gray Tool Co.

Modifications

A modification number is assigned when non-standard features, material mixes or documentation are ordered.

Spring Material

Spring Material	Maximum Recommended Operating Temperatures	
	C°	F°
316 Stainless Steel Inconel X-750®	120 537	250 1000

®Inconel Registered Trade Mark International Nickel Co.

For temperatures up to 1000°F Inconel X-750 springs will be specified as standard. Other alloy spring materials are available and can be specified to meet specific service requirements.