

D/C type DUCTED EXHAUST SAFETY VALVE

2870 AND 288X SERIES

CHARACTERISTICS

The D/C type safety valve is dedicated to protect the equipment from potential overpressure. This is an automatic device that closes when the pressure conditions are back to normal. It is a spring type safety valve with a ducted exhaust design. The D/C type safety valve is available in either brass or stainless steel construction. The standard version is delivered sealed with FKM tightness and a testing device. It complies with the PN 40 pressure rating standards and is certified by a TÜV approval. It can be used on any fluid. Setting certificate and information folder, in compliance with the 1998 decree about the safety valves monitoring, are available on request.

AVAILABLE ITEMS

Type	D10/C
Brass	x
Stainless steel	x
TÜV #	SV_784
PN	40
Orifice (mm)	10
Surface cm ²	0.785
Lift (mm)	4
Min. Pressure setting (bar)	0.3
Max. Pressure setting (bar)	60
Inlet connection (brass) *	G 3/8" M or G 1/2" M
Inlet connection (SS) *	G 3/8" M or G 1/2" M
Outlet connection	G 1/2" F

* Standard models available

CONSTRUCTION STANDARDS

TÜV approval

EC0044 certification, category IV (modules B+D)

Maximum flow rate at setting pressure + 10 %

Closing pressure: setting pressure -10 %



LIMITS OF USE


Maximum body pressure: PN 40

Maximum temperature of materials:

(Read taking into account the working pressure at operating temperature)

Bearing	Brass		Stainless steel	
	Min. temp.	Max. temp.	Min. temp.	Max. temp.
NBR	-10 °C	+100 °C	-10 °C	+100 °C
EPDM	-50 °C	+150 °C	-50 °C	+150 °C
FKM	-20 °C	+160 °C		
Silicone	-50 °C	+200 °C	-60 °C	+200 °C
PTFE	-50 °C	+180 °C	-100 °C	+180 °C
Metal	-50 °C	+200 °C	-195 °C	+450 °C
FKM+PTFE			-20 °C	+190 °C

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		Rev.	9
		Date	11/2013

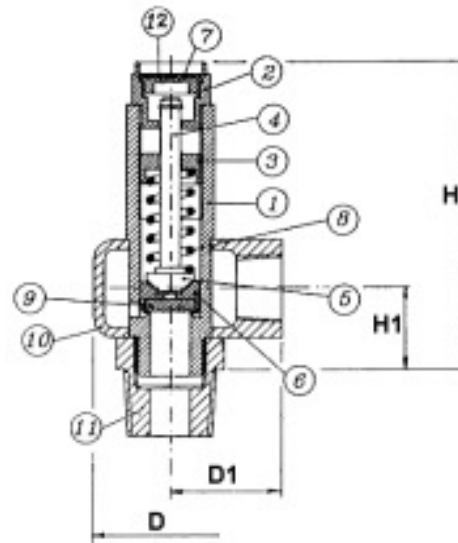
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CONSTRUCTION

#	Item	Brass
1	Body	CW614N / 2.0372 Brass
2	Testing device	CW614N / 2.0372 Brass
3	Adjustment screw	CW614N / 2.0372 Brass
4	Stem	CW614N / 2.0372 Brass
5	Clack	CW614N / 2.0372 Brass
6	Seat	CW614N / 2.0372 Brass
7	Cap	CW614N / 2.0372 Brass
8	Spring	C72 UNI 3823
9	Bearing	NBR / EPDM / Viton / Silicone
10	Exhaust	CW614N / 2.0372 Brass
11	End cap	CW614N / 2.0372 Brass
12	Plate	CW614N / 2.0372 Brass

#	Item	Stainless steel
1	Body	AISI 316 / 1.4401
2	Testing device	AISI 316 / 1.4401
3	Adjustment screw	AISI 316 / 1.4401
4	Stem	AISI 316 / 1.4401
5	Clack	AISI 316 / 1.4401
6	Seat	AISI 316 / 1.4401
7	Cap	AISI 316 / 1.4401
8	Spring	AISI 316 / 1.4401
9	Bearing	NBR / EPDM / Viton / Silicone
10	Exhaust	AISI 316 / 1.4401
11	End cap	AISI 316 / 1.4401
12	Plate	AISI 316 / 1.4401



INSTALLATION

The valve has to be installed as close as possible to the device to protect. It has to be installed in a vertical position. There should be no valve between the safety valve and the device to protect. No foreign body should block the safety valve discharge openings. The exhaust has to be connected to pipework without any back-pressure and discharge in a safe place. The safety valve should not support the exhaust pipework. The safety valve mounting and maintenance have to be carried out in an appropriate way and according to the information sheet provided with the device.

DIMENSIONS (mm)

Type	D10
H	105
H1	30
D	25
D1	32

FLOW RATE COEFFICIENTS - (TÜV)

Type	Gas pressure < 3 bar	Gas pressure > 3 bar
D10/C	0.65	0.77

For compressed air, please refer to the below chart. For other fluids, please contact us.


PRE-SET, MATERIAL AND TEST CERTIFICATE

Standard pre-set and conformity certification according to EN 10 204 2.2 with series number engraved on the safety valve.

OPTIONS

Nickel-plated brass construction
EPDM, Viton®, silicone bearings
BSPT, NPT connections
Possible ATEX certification

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WATER FLOW RATE AT 20 °C (KG/H) ACCORDING TO AD – Merkblatt A2 – TÜV

Pressure (bar)	D10/C	Pressure (bar)	D10/C	Pressure (bar)	D10/C
0,5	1014	14	5365	27,5	7519
1	1434	14,5	5460	28	7587
1,5	1756	15	5553	28,5	7655
2	2028	15,5	5645	29	7721
2,5	2267	16	5735	29,5	7788
3	2483	16,5	5824	30	7853
3,5	2682	17	5912	30,5	7919
4	2868	17,5	5998	31	7983
4,5	3042	18	6083	31,5	8047
5	3206	18,5	6167	32	8111
5,5	3363	19	6250	32,5	8174
6	3512	19,5	6332	33	8237
6,5	3656	20	6412	33,5	8299
7	3794	20,5	6492	34	8361
7,5	3927	21	6571	34,5	8422
8	4056	21,5	6648	35	8483
8,5	4180	22	6725	35,5	8543
9	4302	22,5	6801	36	8603
9,5	4419	23	6876	36,5	8663
10	4534	23,5	6951	37	8722
10,5	4646	24	7024	37,5	8780
11	4756	24,5	7097	38	8839
11,5	4862	25	7169	38,5	8897
12	4967	25,5	7241	39	8954
12,5	5069	26	7311	39,5	9012
13	5170	26,5	7381	40	9068
13,5	5268	27	7450		

COMPRESSED AIR FLOW RATE (Nm3/h) ACCORDING TO AD – Merkblatt A2 - TÜV

Pressure (bar)	D10/C	Pressure (bar)	D10/C	Pressure (bar)	D10/C
0,5	54	14	675	27,5	1286
1	76	14,5	698	28	1309
1,5	99	15	720	28,5	1332
2	124	15,5	743	29	1354
2,5	150	16	766	29,5	1377
3	177	16,5	788	30	1399
3,5	200	17	811	30,5	1422
4	222	17,5	833	31	1445
4,5	245	18	856	31,5	1467
5	268	18,5	879	32	1490
5,5	290	19	901	32,5	1513
6	313	19,5	924	33	1535
6,5	335	20	947	33,5	1558
7	358	20,5	969	34	1581
7,5	381	21	992	34,5	1603
8	403	21,5	1015	35	1626
8,5	426	22	1037	35,5	1648
9	449	22,5	1060	36	1671
9,5	471	23	1082	36,5	1694
10	494	23,5	1105	37	1716
10,5	517	24	1128	37,5	1739
11	539	24,5	1150	38	1762
11,5	562	25	1173	38,5	1784
12	584	25,5	1196	39	1807
12,5	607	26	1218	39,5	1830
13	630	26,5	1241	40	1852
13,5	652	27	1264		

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COMPRESSED AIR FLOW RATE (l/min) ACCORDING TO – Merkblatt A2 - TÜV

Pressure (bar)	D10/C	Pressure (bar)	D10/C	Pressure (bar)	D10/C
0,5	898	14	11250	27,5	21437
1	1261	14,5	11628	28	21815
1,5	1648	15	12005	28,5	22192
2	2058	15,5	12382	29	22569
2,5	2492	16	12759	29,5	22947
3	2950	16,5	13137	30	23324
3,5	3327	17	13514	30,5	23701
4	3704	17,5	13891	31	24078
4,5	4082	18	14269	31,5	24456
5	4459	18,5	14646	32	24833
5,5	4836	19	15023	32,5	25210
6	5214	19,5	15401	33	25588
6,5	5591	20	15778	33,5	25965
7	5968	20,5	16155	34	26342
7,5	6345	21	16532	34,5	26719
8	6723	21,5	16910	35	27097
8,5	7100	22	17287	35,5	27474
9	7477	22,5	17664	36	27851
9,5	7855	23	18042	36,5	28229
10	8232	23,5	18419	37	28606
10,5	8609	24	18796	37,5	28983
11	8987	24,5	19174	38	29361
11,5	9364	25	19551	38,5	29738
12	9741	25,5	19928	39	30115
12,5	10118	26	20305	39,5	30492
13	10496	26,5	20683	40	30870
13,5	10873	27	21060		

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D / E / F / G NGI SERIES SAFETY VALVES MOUNTING AND MAINTENANCE INFORMATION SHEET

1. Description

- a. NGI spring loaded safety valves are suitable for use on gas, steam and liquids. They are the result of 10 years of experience on many applications and ensure the ultimate protection of pressured equipment. They are able to guarantee that the internal pressure does not exceed the maximum authorized pressure, even if other safety devices installed upstream are defective, as long as they are properly sized.
- b. NGI spring loaded safety valves have a brass or stainless steel construction. The pressure of all the safety valves is pre-set and they are all sealed at the plant in order to ensure a maximum safety and a minimum maintenance level.

2. Warranty

- a. Before contacting us, please make sure to identify the type of safety valve as well as the individual number engraved on the safety valve body.
- b. The NGI safety valves are guaranteed 12 months after the delivery date. The defective pieces, after our expertise, will be replaced at our own expense. We will not accept any claim of damage caused by a wrong use, a modification of the safety valve or by a leakage due to impurities.


3. Transport, check upon delivery and storage

- a. BEWARE: the safety valve can be damaged by vibrations, shocks or impurities. Consequently, the valve has to be handled carefully without removing the protection covers or use the testing lever before installation.
- b. When delivered, please check:
 - The quality of the package
 - The conformity of the safety valve to the ordered one
 - The possible damages
 - That the safety valve is delivered with its calibration certificate, which number has to correspond to the number engraved on the safety valve body.
- c. It is recommended to install the safety valve right after the delivery and not to leave it without using it. If the device is stored, it has to be in a dry and sheltered place

4. Precautions for use

- a. Before installation, please check that the device is depressurized and at room temperature.
- b. Any adjustment or modification has to be operated by safety valves qualified technicians only.
- c. WARNING – TOXIC GASES: If the safety valve is installed on an acid storage tank, make sure to use gloves and glasses or any other necessary protection equipment.
- d. A safety valve can be put into operation only if it is sealed and certified and if its pressure has been pre-set by NGI. The pre-set certificate mentions the exact pressure setting.
- e. When a free outlet safety valve has to be tested, please previously make sure that no one stays in the exhaust valve direction. Do not let toxic, explosive or flammable material exhaust in the atmosphere. Before the test, plan the controlled degassing procedure into a confined space.
- f. Do not modify the safety valve, damage its sealing or modify its pressure setting.
- g. Do not create hot or cold thermal shock on the safety valve.
- h. In the event of a malfunction, please immediately contact SECTORIEL or NGI.
- i. BEWARE: IN A CORROSIVE ENVIRONMENT, ONLY STAINLESS STEEL SAFETY VALVES SHOULD BE INSTALLED.
- j. The connection type has to comply with the device piping system.
- k. We recommend you to select ducted exhaust safety valve. If the safety valve has an atmosphere exhaust system, please direct it so that it does not cause any material or corporal damage. Possibility to provide a safety valve with a leakage detector for the control system on request.

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5. Installation

- a. Check that the sealing is not damaged.
- b. The spring loaded safety valves have to be installed in a vertical position with bonnet facing up.
- c. Remove the protection covers, taking care of not damaging the bearings, and mount the safety valve on the installation following its connection type.
- d. It is prohibited to install an isolating valve between the safety valve and the device to protect.
- e. It is prohibited to install a reduction fitting limiting the flow to evacuate between the safety valve and the device to protect.
- f. For ducted exhaust safety valves, make sure that the piping discharge will not cause any personnel or environmental damage.
- g. If the safety valve has to be connected to pipework, please make sure that it is as short as possible in order to create the lowest back pressure possible.
- h. The exhaust piping connected to a ducted exhaust safety valve should not be supported by the safety valve itself. Otherwise, leakage might appear.

6. Cleaning and lubrication

- a. The NGI safety valves are designed to avoid the need of any lubrication
- b. Maintain the safety valve clean and fully operational. For example, check that the exhaust system remains open and that no foreign body blocks the exhaust piping.


7. Routine maintenance

- a. The safety valve is a sensitive safety element that has to be verified periodically. In case of any malfunctioning, please contact SECTORIEL or NGI.
- b. BEWARE: SECTORIEL and NGI are not responsible for the safety valve effective operation if the device is dismantled, modified, or reset by anyone who is not assigned by either SECTORIEL or NGI.

8. Inspection and regular maintenance

- a. Regular testing of valves is essential to maintain operational efficiency. To test it, the lever can be manually operated briefly. To protect the installation during the test, the testing pressure has to stay between 80 and 90% of the setting pressure. The safety valve should be widely open to ensure a significant flow rate. While reclosing, make sure that the seat remains tight. At the installation start-up phase, we recommend to operate this test on a regular basis.
- b. For use on gas or steam installation based in France, comply with the Decree of December, 4th 1998 relating to safety valves supervision.

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