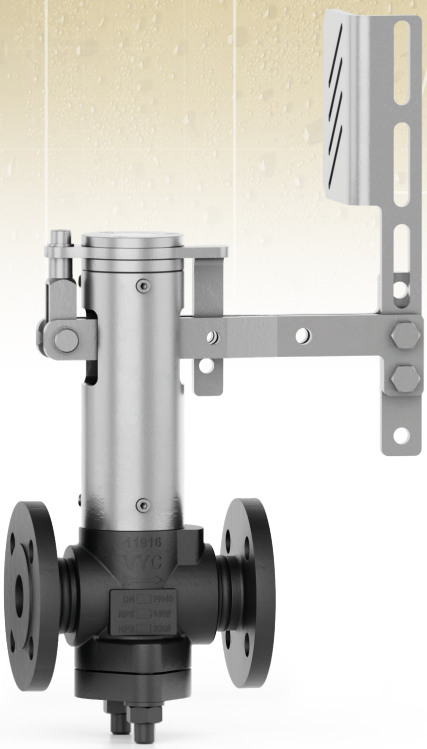
Blowdown valve for bleeding dirt and sludge.

Mod. 660 | EN/ASME/ANSI For steam boilers

DN-20 and 25



DN-32,40 and 50

Operation

For quick and complete opening of the drainage section of steam boilers. The sediments, deposited at the bottom of the boiler, are removed and absorbed by the sudden suction and carried to the outside, preventing the formation of lime scale, sludge and corrosion inside the boiler.

Regulation

- PED 2014/68/UE
- UNE EN 16767
- UNE EN 558 basic serie 49
- UNE EN 12516-2
- UNE EN 12516-4
- UNE EN 12266-1

Specifications

Size

- DN-20 to DN-50

Temperature range

- -10 ˚C to +250 ˚C

Applications

- Gas, steam and liquid

Materials

- Carbon steel

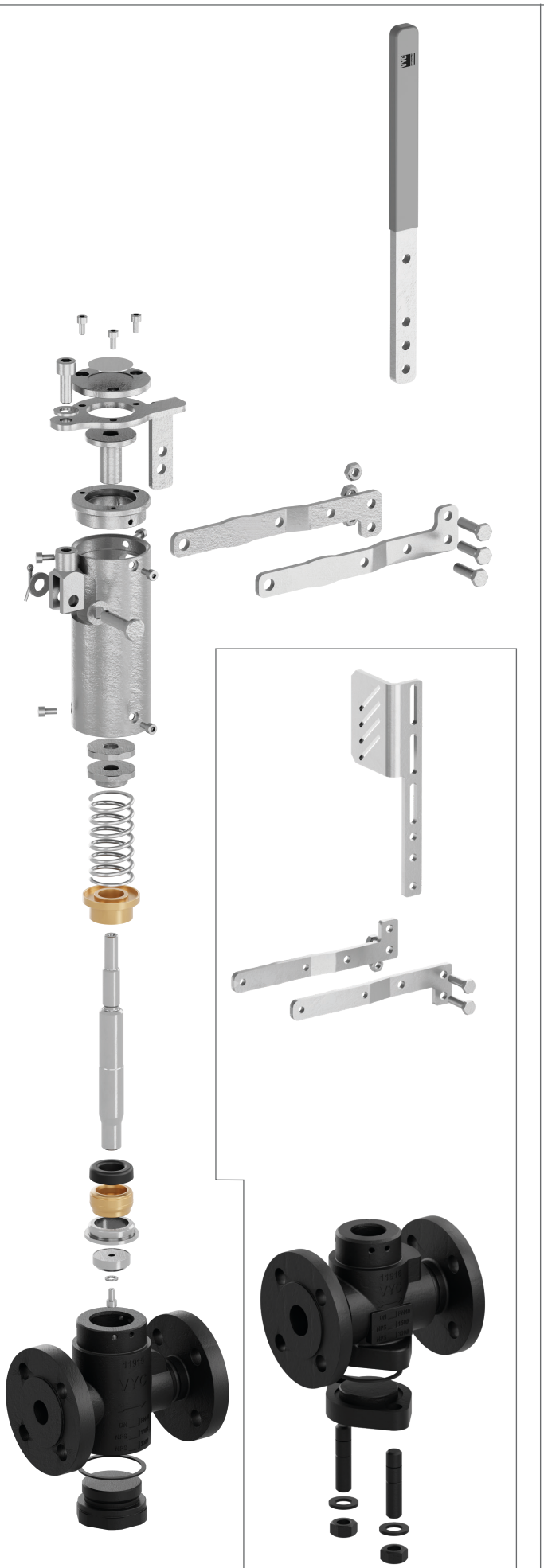
Maximum pressure

- Up to 40 bar

Certification

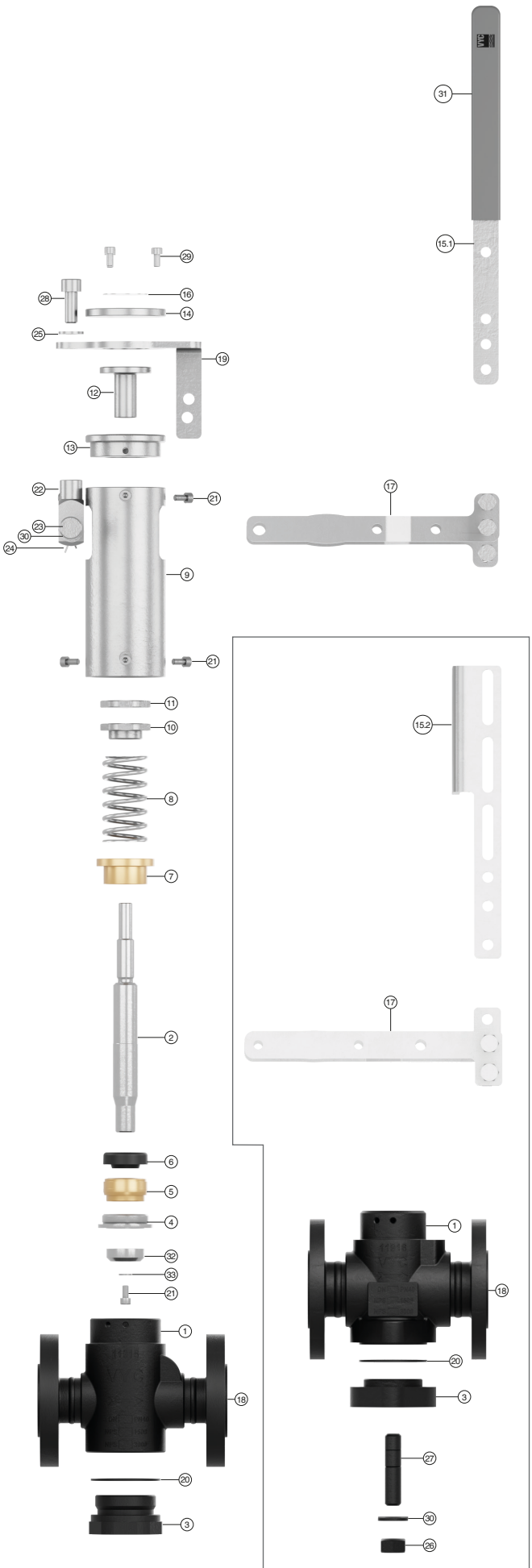
N.° PIECE	PIECE	MATERIAL
1	Body	Carbon steel (EN-1.0619)
2	Axis	Stainless steel (EN-1.4028)
3	Purge plug	Carbon steel (EN-1.1191)
4	Seating	Stainless steel (EN-1.4028)
5	Body ring	Bronze (EN-CC491K-GZ)
6	Retene	E.P.D.M.
7	Gland	Bronze (EN-CC491K-GZ)
8	Spring	Spring steel (EN-10270-1-SH)
9	Headstock	Carbon steel (EN-1.0580)
10	Spring press	Carbon steel (EN-1.1191)
11	Spring press nut	Carbon steel (EN-1.1191)
12	Lid guide	Carbon steel (EN-1.1191)
13	Headstock lid	Carbon steel (EN-1.1191)
14	Lid disc	Carbon steel (EN-1.1191)
15.1	Lever	Carbon steel (EN-1.0037)
15.2	Pedal	Carbon steel (EN-1.0037)
16	Plate	Stainless steel (EN-1.4401)
17	Lever arm	Carbon steel (EN-1.0037)
18	Flange	Carbon steel (EN-1.0460)
19	Bracket	Carbon steel (EN-1.0037)
20	Purge plug gasket	PTFE+Car.Silicone
21, 28, 29	Screw	Carbon steel(EN-1.1191)
22	Bracket	Carbon steel
23	Bolt	Carbon steel (EN-1.0718)
24	Split pin	Carbon steel (EN-1.1141)
25, 30, 33	Washer	Carbon steel (EN-1.1141)
26	Nut	Carbon steel (EN-1.1141)
27	Stud	Carbon steel (EN-1.1181)
31	Grip	Vinyl
32	Plug	Stainless steel (EN-1.4028)
DN		25 to 50 (EN, ANSI)
PN		40

OPERATING CONDITIONS PN-40 EN 1092-1	PRESSURE [bar]	40	37,1	33,3	30,4
	MAXIMUM TEMP. [°C]	RT	100	200	250
OPERATING CONDITIONS 150# ASME B16.5	PRESSURE [bar]	19,2	17,7	13,8	12,1
	MAXIMUM TEMP. [°C]	50	100	200	250
OPERATING CONDITIONS 300# ASME B16.5	PRESSURE [bar]	40	37,4	33,6	30,7
	MAXIMUM TEMP. [°C]	50	100	200	250



Isometric view | DN-20 and 25

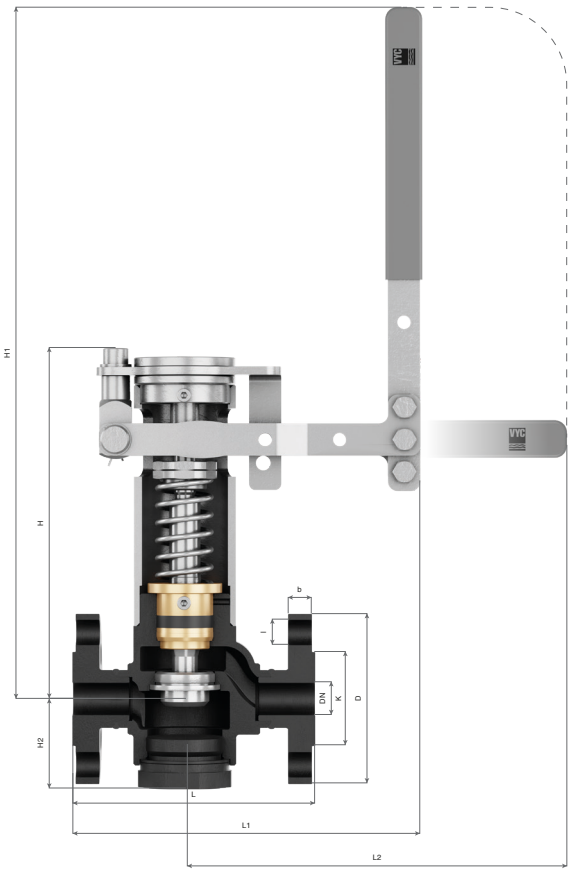
Isometric view | DN-32, 40 and 50



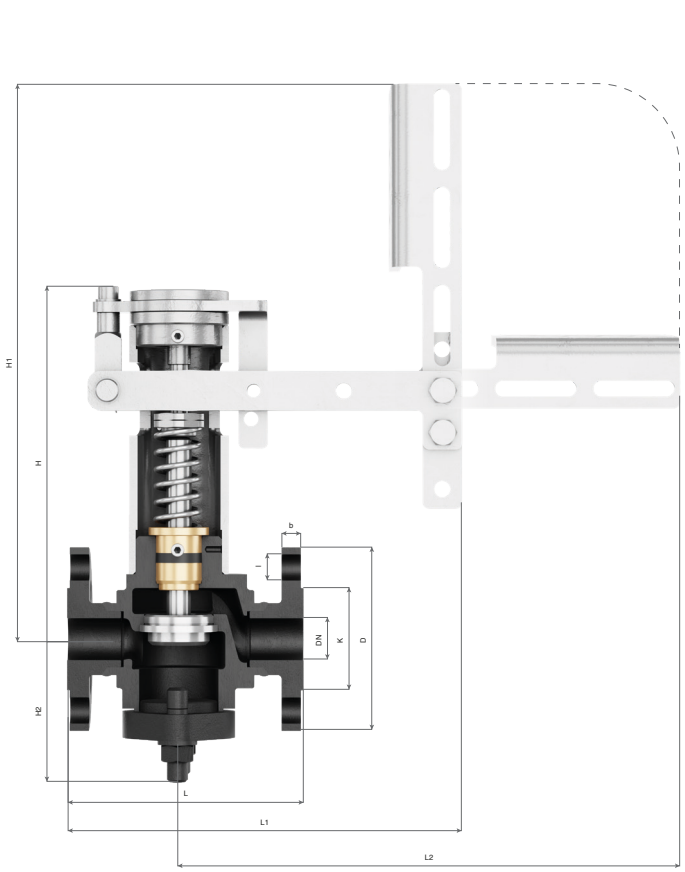
Exploded view | DN-20 and 25

Exploded view | DN-32, 40 and 50

DN	20			25			32			40			50		
CONNECTIONS	I - Flanges PN-40 EN 1092-1														
	II - Flanges class 150 lbs ASME B16.5														
	III - Flanges class 300 lbs ASME B16.6														
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
H [mm]		218,00			218,00			269,50			269,50			269,50	
H1 [mm]		429,00			429,00			425,00			425,00			425,00	
H2 [mm]		54,00			54,00			106,00			106,00			106,00	
L [mm]		150,00			160,00			180,00			200,00			230,00	
L1 [mm]		216,00			220,00			346,00			361,00			376,00	
L2 [mm]		385,00			385,00			451,00			451,00			451,00	
D [mm]	105	100	115	115	110	125	140	115	135	150	125	155	165	150	165
K [mm]	75,00	69,90	82,60	85,00	79,40	88,90	100,00	88,90	98,40	110,00	98,40	114,30	125,00	120,70	127,00
I [mm]	14,00	15,90	19,10	14,00	15,90	19,10	18,00	15,90	19,10	18,00	15,90	22,20	18,00	19,10	19,10
b [mm]	18,00	12,70	15,90	18,00	14,30	17,50	18,00	15,90	19,10	18,00	17,50	20,70	20,00	19,10	22,30
DRILLS N°		4			4			4			4			4	8
WEIGHT [kg].		7,00			7,50			15,00			16,00			18,00	
CODE 2103-660.	8344	83442	83443	8104	81042	81043	8144	81442	81443	8124	81242	81243	8204	82042	82043
Kv VALUES [m3/h]		7,30			7,30			18,30			18,30			18,30	



DN-20 and 25



DN-32, 40 and 50

Performance and blowdown

Purges shall be carried out at times when the water is at rest or when there is minimum steam extraction, so that the sediments are deposited at the bottom of the boiler.

Purging should be carried out at least every 8-hour shift. The effective duration is estimated to be between 3 ÷ 4 seconds, although it is recommended to follow the following mathematical model:

In order to stabilise the salinity of the boiler, it is necessary that the quantity of salts extracted per unit of time is equal to that provided by the feed water in this same period.

This can be expressed as follows: $S \cdot A = C \cdot P$

Where:

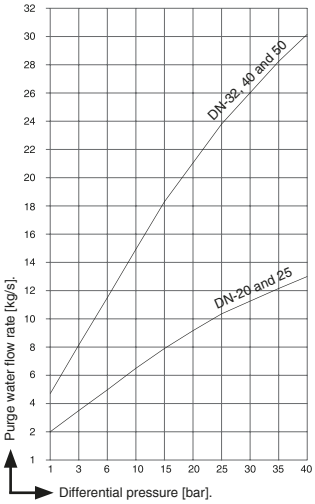
R = Real steam production of the boiler (kg/h)
A = Feed water (kg/h)
P = Amount of water extracted in the bleeding process (kg/h)
S = Conductivity of the water supply (µS/cm)
C = Desired conductivity inside the boiler (µS/cm)

Example:
R = 1520 kg/h
S = 200 µS/cm
C = 4000 µS/cm
P = 80 kg/h

The amount of water extracted in the purging process:

$$P = \frac{R \cdot S}{C - S}$$

For the DN of the chosen valve, the purge water flow rate extracted in the purging process (P) can be calculated according to the graph.



To remove sludge, turbulence must occur, and this is achieved with short and fast blowdowns (3 to 5 sec.).

The combination of the Continuous desalting valve* and the Blowdown valve for bleeding dirt and sludge• is essential for optimizing the boiler's efficiency, and include its maximum security and availability.

Neither of them can be replaced with others not designed for this specific application. Their moderate cost is depreciated in the short term.

*(See brochure Model 560 and 560-A).
•(See brochure Model 460, and 660-A).

www.vycindustrial.com
+34 93 735 76 90 119 info@vycindustrial.com
Avenc del Daví, 22 | Pol. Ind. Can Petit | 08227 · Terrassa (Barcelona) España