



AUTOMATION AND DIGITALIZATION

NAF PROCAP CAPPING VALVE

TECHNICAL BULLETIN

ANDRITZ

ENGINEERED SUCCESS

Primary characteristics

NAF ProCap, Capping valve for automated filling of wood chips to the batch digester in Pulp industries. The design provides a reliable and tight shutoff valve with long life time, supplied as standard in stainless steel for pressure ratings PN 16 and ANSI Class 150 and in sizes DN500/20", DN600/24" and DN750/30".

The valve has:

- An unique design using the eccentric hubs to load the seat and provide a tight shutoff
- An inlet neck that is drilled and tapped to accept
- Direct mounting of the chip chute
- An outlet flange in std dimension or customized to meet existing digester flange
- A stainless steel ball segment with welded overlay of Alloy 21 in the seat area
- Alloy 21 seat
- Has sealed stems with O-rings in PFM that prevent build up and results in an increased life time
- NAF Turnex high performance pneumatic actuators used for operation and eccentric hub
- Locking device, cylinders in stainless steel with spring to lock the valve for safe operation

CE-marked according to Pressure Equipment Directive (PED 2014/68/EU) module H, category III. For module H1, category IV contact NAF

TABLE 1: TECHNICAL SPECIFICATIONS FOR STANDARD DESIGN

Material	EN 1.4408
Size range	DN500, 600, 750 20", 24", 30"
Outlet flange	PN 40/ ANSI Class 300
Pressure ratings	PN 16 ANSI Class 150
Valve design	ANSI B16.34 and EN 12516
Max differential pressure	16 bar
Face to face	See page 5
Temperature range	-30 - 250°C, see graph on page 6
Test procedure	1,5 x PN at open valve According to EN 12266-1
Tightness class	Leakage test with gas according to EN 12266-1, Rate A (no visible leakage)

Other technical data will be specified by NAF for each individual application.

Applications

NAF ProCap is a batch digester capping valve for chips filling in a safe and time saving way.



Materials of construction

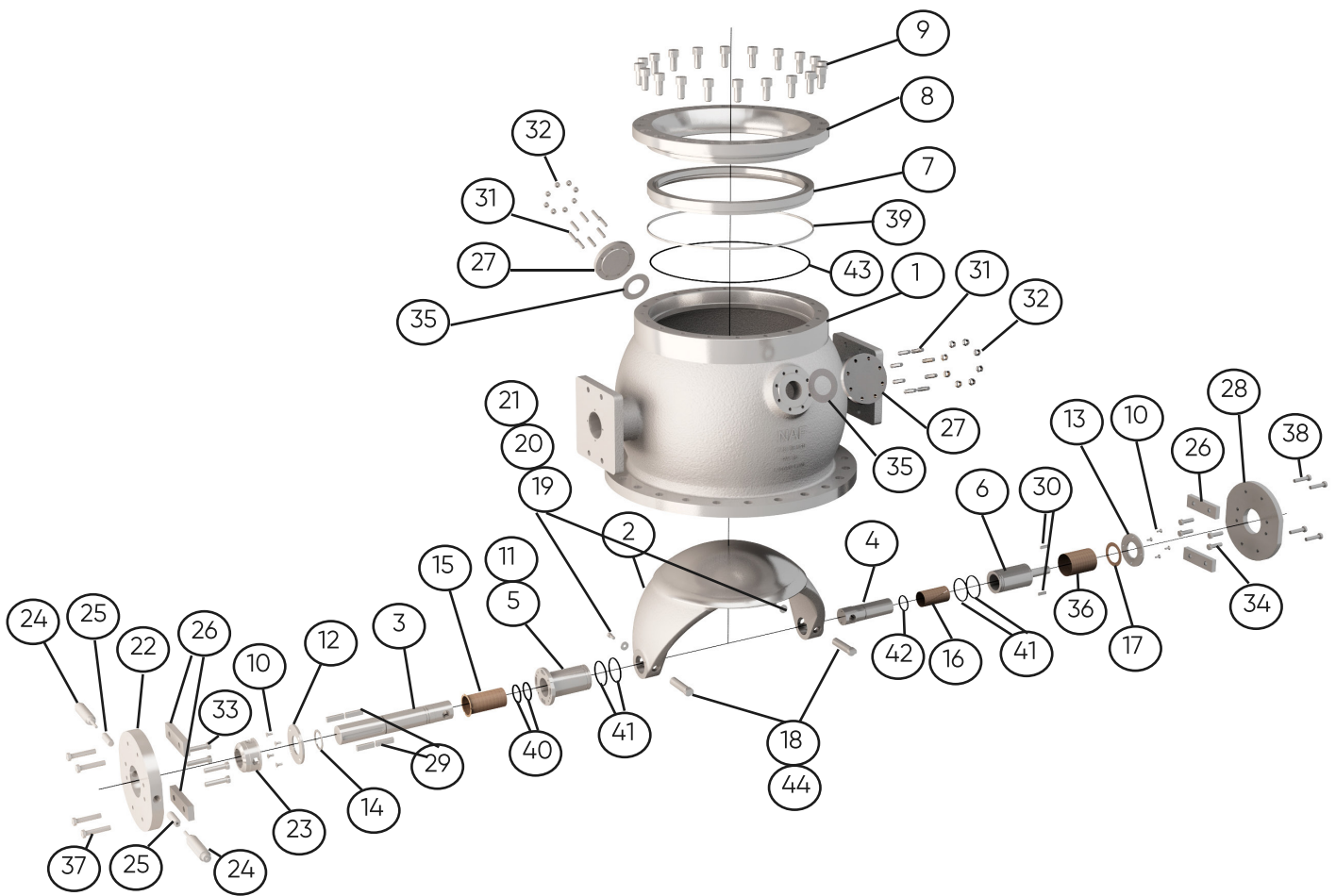


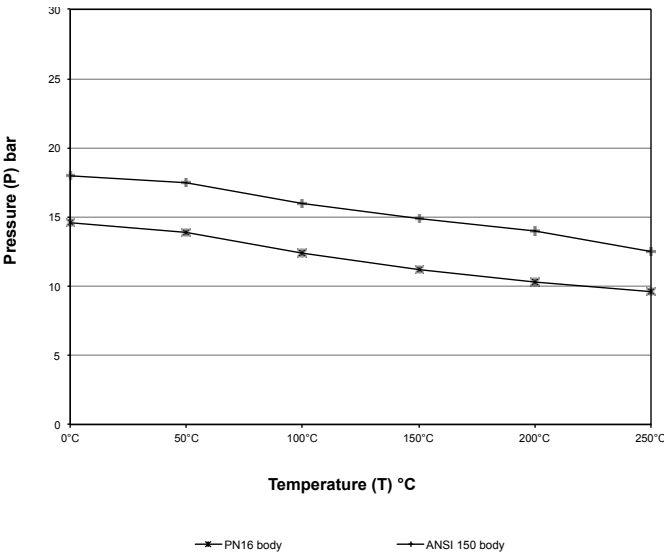
TABLE 1: MATERIAL (STANDARD CF8M VERSION)

Item	Qty.	Part	Mater
1	1	Body	1.4408
2	1	Ball sector	1.4408/Alloy 21
3	1	Stem, operating	1.4460
4	1	Stem, tightening	1.4460
5	1	Eccentric hub	1.4460/Hard Chrome
6	1	Eccentric hub	1.4460
7	1	Seat ring	1.4408/Alloy 21
8	1	Clamp ring	1.4408
9	24	Screw	A4-80
10	8	Screw	A4-70
11	4	Screw	A4-80
12	1	Cover	1.4436
13	1	Cover	1.4436
14	2	Lock segment	1.4460/Hard Chrome
15	1	Stem bearing	PTFE + Stainless steel
16	1	Stem bearing	PTFE + Stainless steel
17	1	Washer	PTFE + Stainless steel
18	2	Pin	1.4460
19	2	Pin washer	1.4460
20	2	Cyl. pin	1.4460
21	2	Screw	A4-80
22	1	Jammer plate	1.4436
23	1	Hub	1.4460/Hard Chrome
24	2	Cylinder	
25	2	Piston	1.4460
26	4	Distance block	1.4436
27	2	Lid	1.4436
28	1	Actuator plate	1.4436
29	4	Key	A4
30	2	Key	A4
31	16	Screw	A4-80
32	16	Nut	A4-80
33	4	Screw	A4-80
34	4	Screw	A4-80
35	2	Gasket	Graphite
36	1	Eccentric hub bearing	TFE + Stainless steel
37	4	Screw	A4-80
38	4	Screw	A4-80
39	1	O-ring	H-ELAST
40	2	O-ring	H-ELAST
41	4	O-ring	H-ELAST
42	1	O-ring	H-ELAST
43	1	O-ring	H-ELAST
44	2	Thread insert	A4-70



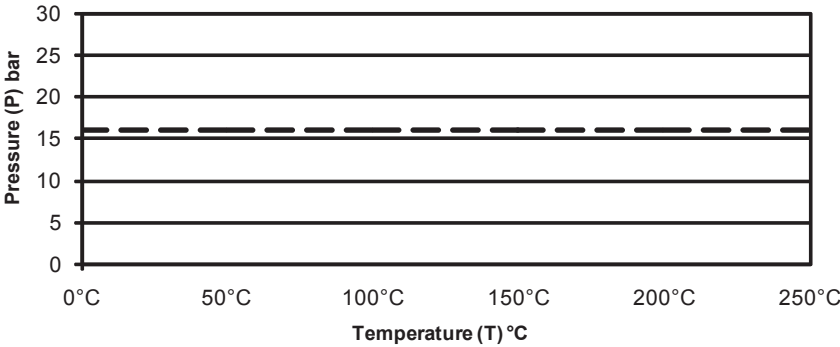
Working pressure, differential pressure and temperature

MAX WORKING PRESSURE (DIAGRAM 1)



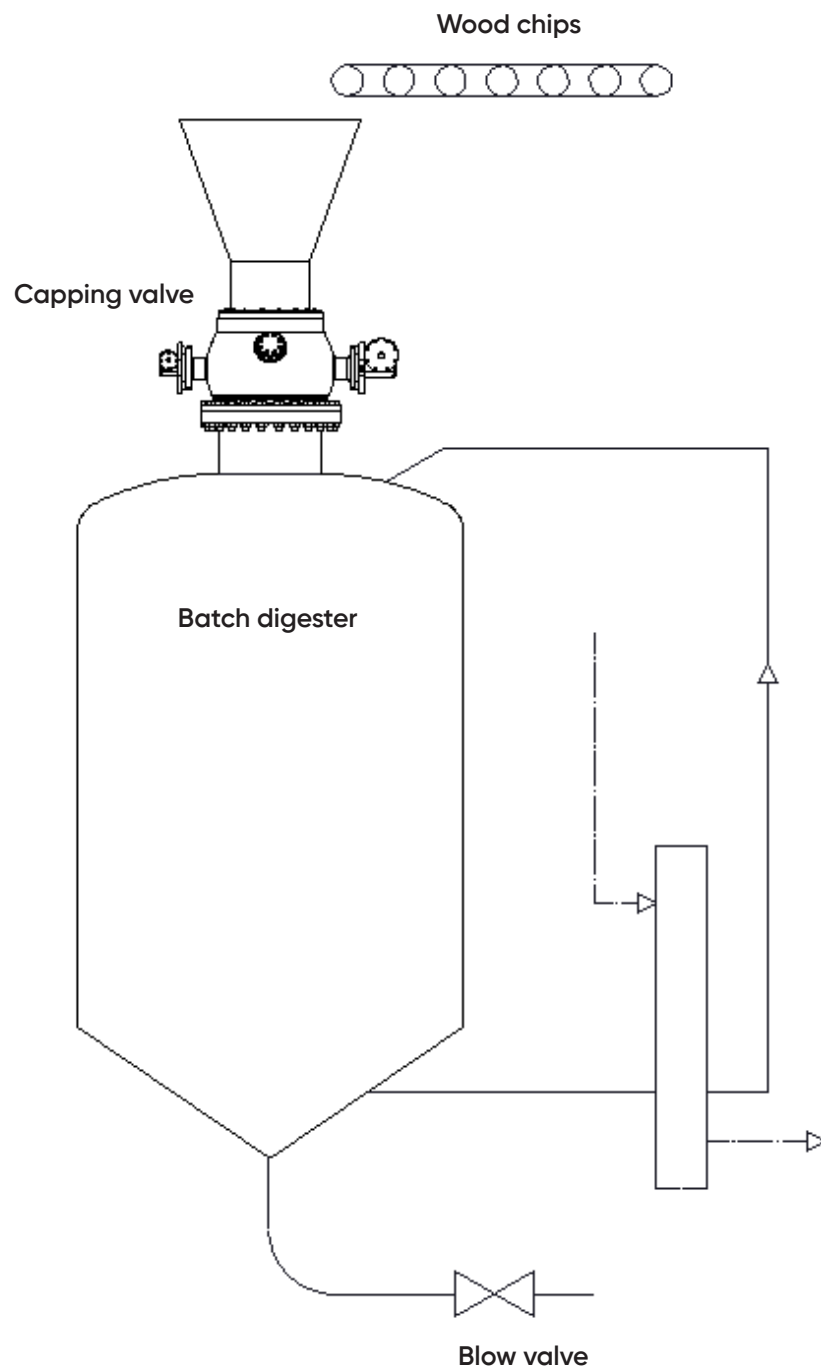
The maximum working pressure and temperature in the body depends on pressure class according to respectively flange standards. For EN1092-1:2001, see diagram 1.

MAX DP (DIAGRAM 2)

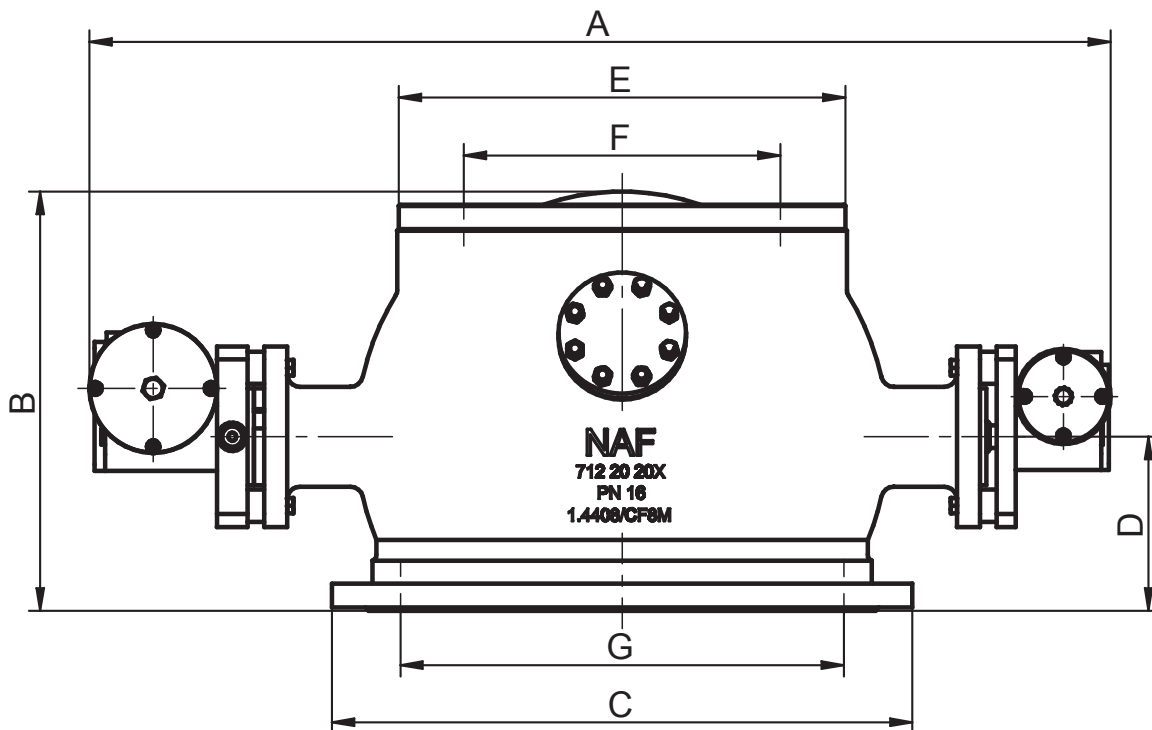


Applications

NAF ProCap capping valve for automated filling of wood chips to the batch digester in pulp industries. A unique design using the eccentric hubs to load the seat and provide a tight shutoff.



Dimensions and Weight



Pneumatic actuators for DN500/700 are NAF 791290-3250 and 791290-2235
Pneumatic actuators for DN600/800 are NAF 791390-4280 and 791290-2240
Pneumatic actuators for DN750/950 are NAF 791390-5280 and 791290-3250

TABLE 2:

DN	NPS	Dimensions, mm							Weight kg
		A	B	C	D	E	F	G	
500/700	20"/28"	1605	650	910	270	705	496	695	850
600/800	24"/32"	1860	794	1085	337	823	590	796	1440
750/950	30"/38"	2355	1080	1240	520	1040	733	950	2700

¹⁾ The outlet flange and the face-to-face of the valve can be customized to match an existing installation.

Limit switch box for Locking device

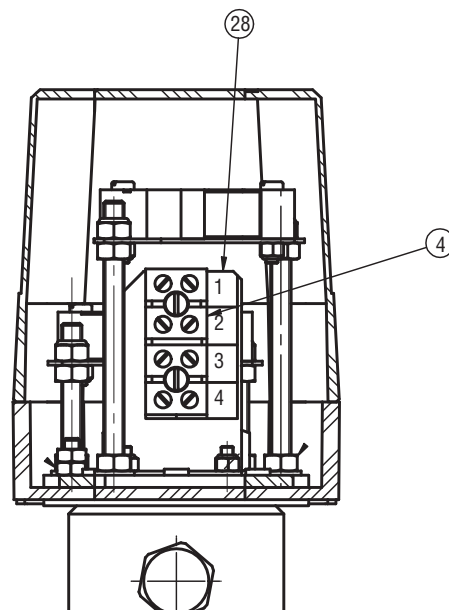
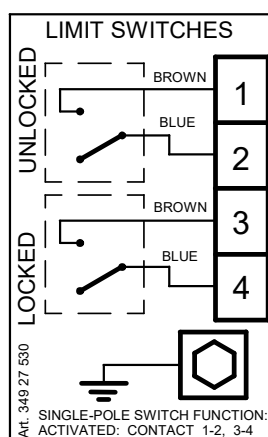
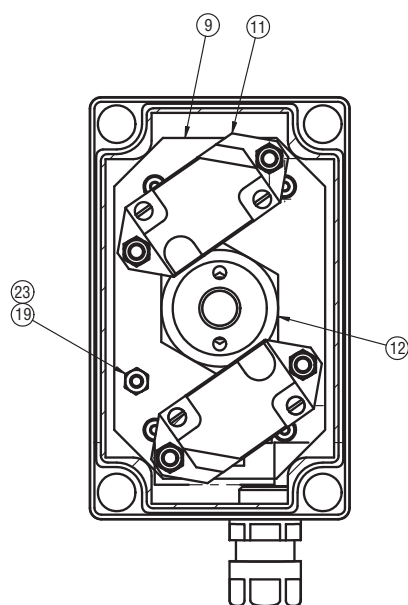
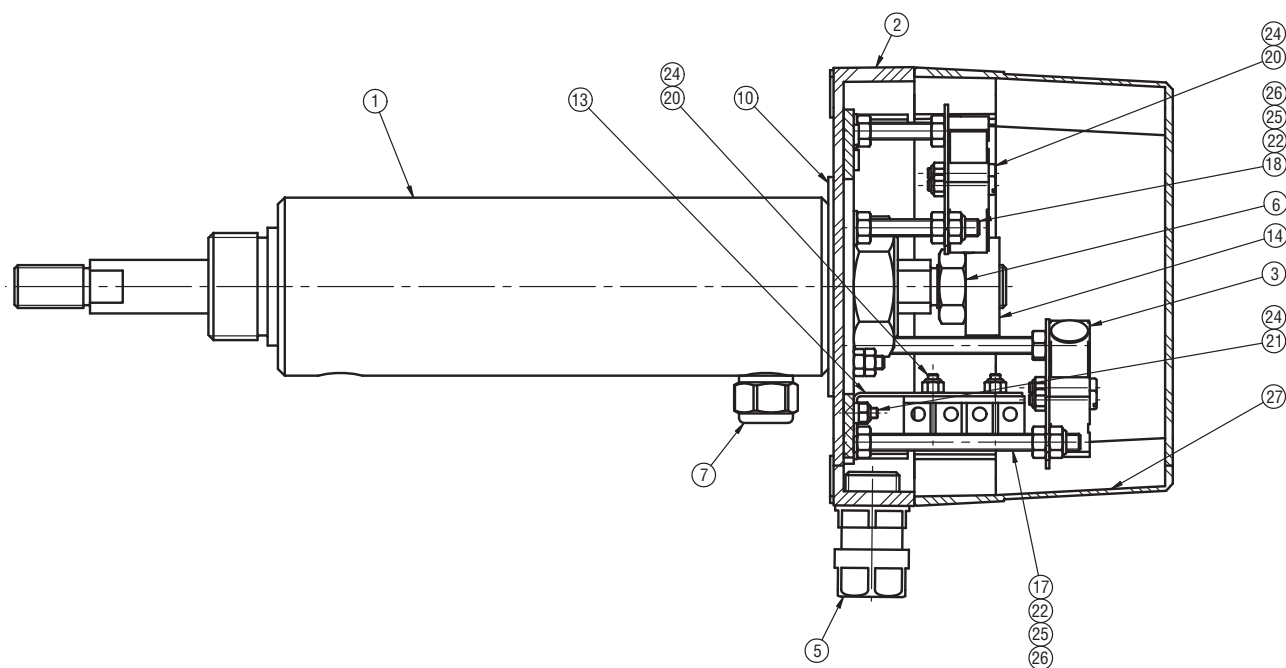


TABLE 3: MATERIAL

Item	Qty.	Part	Material
1	1	Cylinder	Stainless
2	1	Box	ABS-plastic
3	2	Limit switch	Plastic (PBA)
4	1	Terminal block	Plastic (Gemin)
5	1	Cable gland	Polyamide
6	1	Nut	A4
7	1	Silencer	Brass
9	1	Plate	1.4301
10	1	Washer	1.4301
11	1	Mounting plate	1.4301
12	4	Mounting nut	1.4305
13	1	Holder plate	1.4301
14	1	Rod bulb	1.4301
17	2	Screw	A4
18	2	Screw	A4
19	1	Screw	A4
20	6	Screw	A4
21	2	Screw	A4
22	8	Nut	A4
23	2	Nut	A4
24	8	Locking nut	A4
25	4	Locking nut	A4
26	4	Washer	A2

Product code

Example:

	<u>86</u>	<u>8</u>	<u>3</u>	<u>9</u>	<u>0</u>	-	<u>600</u>
Code	1	2	3	4	5		6

1. Valve type

88 Batch digester capping valve

2. Material (Body)

8 ASTM A351 CF8M

E ASTM A351 CG8M

3. Pressure rating

0 PN 40/ANSI, Class 300

4. Steam bearing

9 H-ELAST

(same media resistance as EPDM), max t=250 °C

5. Seals

Seat rings

Seat seal

0 Alloy 21

H-ELAST (same media resistance as EPDM), max t=250 °C

6. Size inlet / outlet

DIN-version

ANSI-version

	DN		Size
500	500/700	20/28	20"/28"
600	600/800	24/32	24"/32"
750	750/950	30/38	30"/38"

Versions marked with bold text and are the standard versions with shortest leadtime.



CONTACT US!

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