

# Solenoid valves Series CFB

New 

2/2-way and 3/2-way  
Normally Closed (NC) and Normally Open (NO)



Series CFB solenoid valves for general applications are available in the NC and NO version, 2/2 and 3/2-way.

Special versions are available on demand for the protection against the water hammer or with specific treatments for the interception of aggressive fluids.

The valve function is determined by a poppet or by a diaphragm with operation direct or indirect.

Different versions are available according to the nominal diameter and to the threaded ports, as shown in the following tables. They can thus satisfy various requirements in terms of flow rates and working pressures.

- » Solenoid valves for air and water
- » Great reliability over time, even in heavy working conditions

## GENERAL DATA

Valve functions	2/2, 3/2 NC - NO
Construction	poppet type or diaphragm (linked or not), direct or indirect operation
Fixing	none, in line with inlet and outlet (series CFB-A and CFB-B); through threaded M4 feet (series CFB-D)
Materials	body = brass (alimentary or anti-limestone nickel-platings available on demand); diaphragm = NBR (CFB-A) or FKM (CFB-D and CFB-B), EPDM on demand; others = stainless steel
Installation	in any position (2/2: it is recommended to point the solenoid upwards to avoid any possible store of impurities)
Fluid operating temperature	with NBR: -10 + 90°C; with FKM and EPDM: -10 + 140°C
Operating pressures (min and max)	see the tables referring to each solenoid valve series (reference to water)
Nominal flow rate and diameter	see the tables (Kv e Ø D)
Fluids	air, water, liquid and gas fluids with viscosity not above 37 cST (centiStokes) or 5° E (Engler)
Voltage	AC standard: 24 Vac, 110 Vac (60Hz), 220/230 Vac (50/60 Hz) - DC standard: 12 V, 24 V
Voltage tolerance	AC: ±10% - DC: ± 5%
Power consumption	see the table
Duty cycle	ED 100%
Class of insulation	H

**CODING EXAMPLE**

<b>CFB</b>	<b>-</b>	<b>A</b>	<b>1</b>	<b>3</b>	<b>L</b>	<b>-</b>	<b>R</b>	<b>1</b>	<b>-</b>	<b>B7</b>	<b>E</b>
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<b>CFB</b>	SERIES
<b>A</b>	OPERATION: A = indirect B = direct with linked diaphragm D = direct
<b>1</b>	NUMBER OF WAYS - POSITIONS: 1 = 2/2-way NO 2 = 2/2-way NC 3 = 3/2-way NC
<b>3</b>	CONNECTIONS: 1 = G1/8 2 = G1/4 3 = G3/8 4 = G1/2 5 = G3/4 6 = G1 7 = G1 1/4 8 = G1 1/2 9 = G2
<b>L</b>	NOMINAL DIAMETER: A = 1,4 mm B = 2 mm C = 2,5 mm D = 2,8 mm F = 4 mm G = 6 mm J = 8 mm L = 11,5 mm M = 13 mm N = 13,5 mm P = 18 mm R = 26 mm T = 32 mm X = 45 mm Z = 50 mm
<b>R</b>	DIAPHRAGM MATERIAL: R = NBR W = FKM E = EPDM (ond demand)
<b>1</b>	BODY MATERIAL: 1 = brass 2 = alimentary anti-limestone nickel-plated brass for high temperatures (on demand) 3 = alimentary nickel-plated brass (on demand)
<b>B7</b>	SOLENOID DIMENSION *: B7 = 22 mm B8 = 30 mm B9 = 36 mm
<b>E</b>	SOLENOID VOLTAGE *: B = 24V AC 50/60 Hz D = 110V AC 60 Hz E = 230V AC 50/60 Hz 2 = 12V DC 3 = 24V DC

NOTE: for some directly operated 2/2 NO solenoid valves, the solenoid to be used is the B8\*K type (see also the TABLE FOR THE COUPLING BETWEEN SOLENOIDS AND VALVES on page 2/1.30.03).

## TABLE FOR THE COUPLING BETWEEN SOLENOIDS AND VALVES

New

See solenoids and connectors for solenoids on page 2/2.35.03 - 2/2.35.05

Mod. B8/B9 = mod. 124-800

Mod. B7 = mod. 122-800

Mod.	24V AC 50 Hz	110V AC 50/60 Hz	220/230V AC 50/60 Hz	12V DC	24V DC
<b>Directly operated solenoid valve, 2/2 and 3/2 NC, 2/2 NO</b>					
CFB-D21C-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D21F-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22C-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22F-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22G-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D23J-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA) **	not available	B93 (30W)
CFB-D24J-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA) **	not available	B93 (30W)
CFB-D24M-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA) **	not available	not available
CFB-D31A-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D31D-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D32A-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D32D-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D11A-W1-	B8BK (15VA)	B8DK (15VA)	B8EK (15VA)	B82K (19W)	B83K (19W)
CFB-D12D-W1-	B8BK (15VA)	B8DK (15VA)	B8EK (15VA)	B82K (19W)	B83K (19W)
CFB-D13J-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA) **	not available	not available
<b>Directly operated solenoid valve with constrained diaphragm, 2/2 NC</b>					
CFB-B23L-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
CFB-B24N-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
CFB-B25P-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
CFB-B26R-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
<b>Indirectly operated solenoid valve, 2/2 NC</b>					
CFB-A23L-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A24N-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A25P-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A26R-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A27T-R1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-A28X-R1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-A29Z-R1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
<b>Indirectly operated solenoid valve, 2/2 NO</b>					
CFB-A13L-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A14N-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A15P-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A16R-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A17T-R1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-A18X-R1-	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
CFB-A19Z-R1-	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
	* B7B solenoid with nominal bifrequency of 50/60 Hz		** B9E solenoid with the sole nominal frequency of 50 Hz		

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CONTROL

## Directly operated 2/2 NC - NO and 3/2 NC solenoid valve

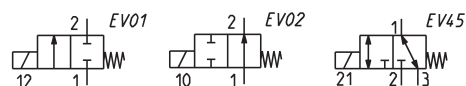
**New**


The direct control of these solenoid valves enables them to work with operating pressures which are equal to zero. Ports: G1/8 and G1/2.

**DRAWING LEGEND:**

X = NC valve

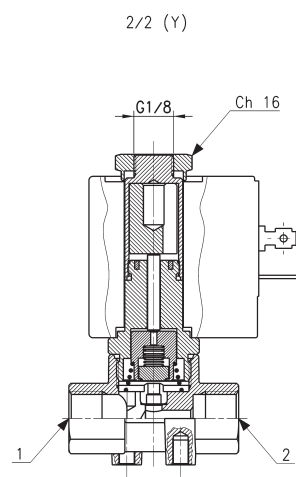
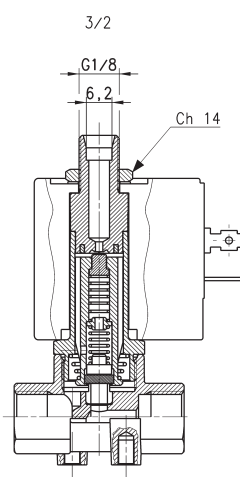
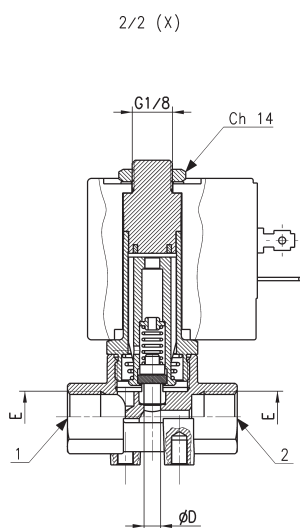
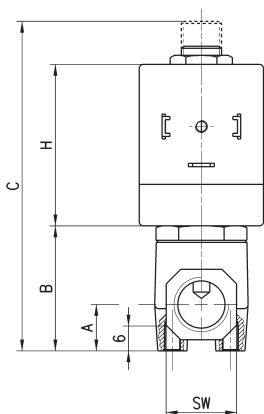
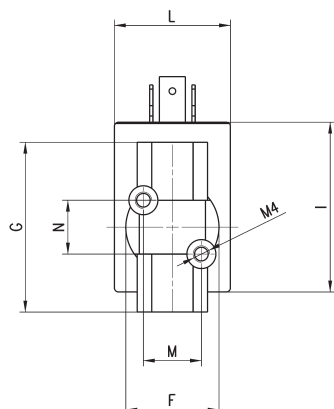
Y = NO valve


**TABLE NOTES:**

\* = choose the suitable solenoid (see the table on page 2/1.30.03).

\*\* = the performances shown in the table refer to the use with inlet from "2" and outlet from "1".

\*\*\* = 0 + 4 on demand



Mod.	Function	Orifice ØD (mm)	Kv [m³/h with water]	Pressure min-max (bar)	A	B	C	E	F	G	SW	H	I	L	N	M	SYMBOL
CFB-D21C-W1-*	2/2 NC	2,5	0,13	0 + 18	11	30	73.8	G1/8	23	41	17	39	41	30	13	14	EV01
CFB-D21F-W1-*	2/2 NC	4	0,39	0 + 9	11	30	73.8	G1/8	23	41	17	39	41	30	13	14	EV01
CFB-D22C-W1-*	2/2 NC	2,5	0,13	0 + 18	11	30	73.8	G1/4	23	41	17	39	41	30	13	14	EV01
CFB-D22F-W1-*	2/2 NC	4	0,39	0 + 9	11	30	73.8	G1/4	23	41	17	39	41	30	13	14	EV01
CFB-D22G-W1-*	2/2 NC	6	0,6	0 + 2,5***	11	30	73.8	G1/4	23	41	17	39	41	30	13	14	EV01
CFB-D23J-R1-*	2/2 NC	8	1	0 + 2	15	45	89	G3/8	37	55	27	39	47	36	22	22	EV01
CFB-D24J-R1-*	2/2 NC	8	1	0 + 2	15	45	89	G1/2	37	55	27	39	47	36	22	22	EV01
CFB-D24M-R1-*	2/2 NC	13	2,4	0 + 0,8	15	45	89	G1/2	37	55	27	39	47	36	22	22	EV01
CFB-D31A-W1-*	3/2 NC**	1,4	0,08	0 + 14	11	30	79.6	G1/8	23	41	17	39	41	30	13	14	EV45
CFB-D31D-W1-*	3/2 NC**	2,8	0,26	0 + 5	11	30	79.6	G1/8	23	41	17	39	41	30	13	14	EV45
CFB-D32A-W1-*	3/2 NC**	1,4	0,08	0 + 14	11	30	79.6	G1/4	23	41	17	39	41	30	13	14	EV45
CFB-D32D-W1-*	3/2 NC**	2,8	0,26	0 + 5	11	30	79.6	G1/4	23	41	17	39	41	30	13	14	EV45
CFB-D11A-W1-*	2/2 NO	1,4	0,08	0 + 22	11	30	75	G1/8	23	41	17	39	41	30	13	14	EV02
CFB-D12D-W1-*	2/2 NO	2,8	0,26	0 + 7,5	11	30	75	G1/4	23	41	17	39	41	30	13	14	EV02
CFB-D13J-W1-*	2/2 NO	8	1	0 + 1,5	15	45	89	G3/8	37	55	27	39	47	36	22	22	EV02

Directly oper. 2/2 NC solenoid valve with linked diaphragm

New



The diaphragm which is linked to the mobile plunger is a good arrangement between high fluid flow rates and working pressures (zero pressures as well).  
Ports: from G3/8 to G1.  
The standard diaphragm is supplied in FKM.

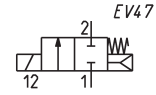
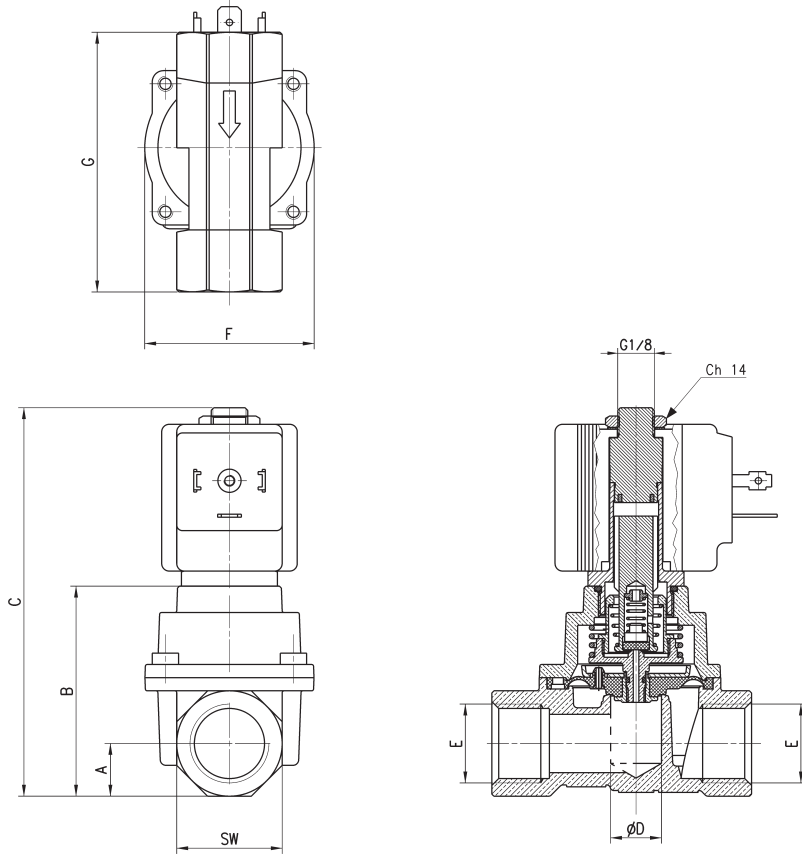
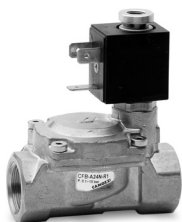


TABLE NOTE:  
\* = choose the suitable solenoid (see the table on page 2/1.30.03).



Mod.	Function	Orifice ØD (mm)	Kv [m³/h with water]	Pressure min-max (bar)	A	B	C	E	F	G	SW
CFB-B23L-W1-*	2/2 NC	11,5	2,1	0 + 15	14	55,8	103,2	G3/8	45	69	28
CFB-B24N-W1-*	2/2 NC	13,5	2,5	0 + 15	14	55,8	103,2	G1/2	45	69	28
CFB-B25P-W1-*	2/2 NC	18	5	0 + 10	21	72	119,4	G3/4	71	93	42
CFB-B26R-W1-*	2/2 NC	26	8	0 + 10	21	72	119,4	G1	71	93	42

**New**
**Indirectly operated 2/2 NC solenoid valve**


The pilot of these indirectly operated solenoid valves controls the diaphragm position through a differential pressure. These valves are therefore particularly suitable for controlling high fluid flow rates and require very low working pressures.

Ports: from G3/8 to G2.

The standard diaphragm is supplied in NBR.

On demand it can be supplied in FKM or EPDM.

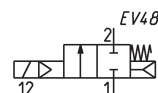
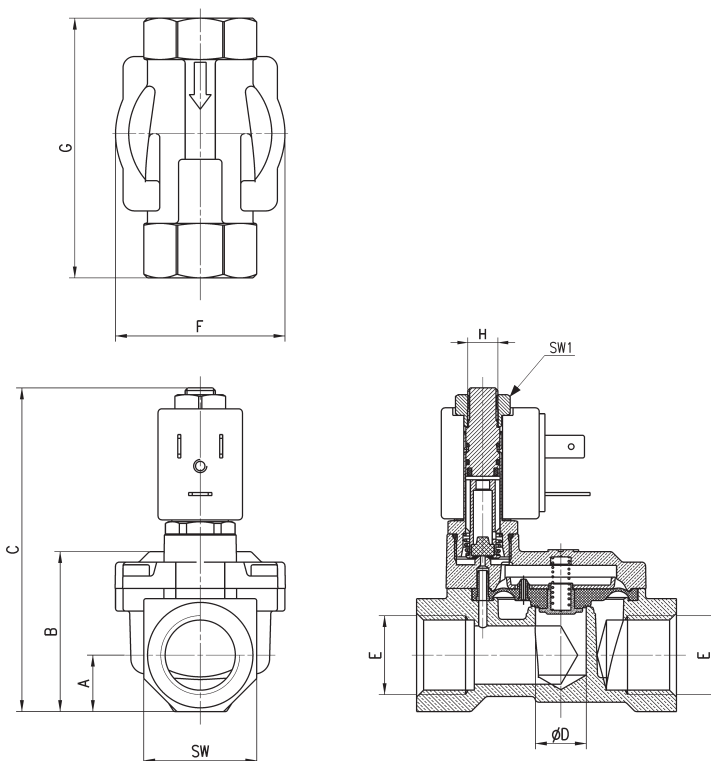


TABLE NOTE:

\* = choose the suitable solenoid (see the table on page 2/1.30.03).



Mod.	Function	Orifice ØD (mm)	Kv [m³/h with water]	Pressure min-max (bar)	A	B	C	E	F	G	H	SW	SW1
CFB-A23L-R1-*	2/2 NC	11,5	1,7	0,1 + 15	12	32,5	78,5	G3/8	41,9	57	M8x0,75	24	13
CFB-A24N-R1-*	2/2 NC	13,5	3,8	0,1 + 15	15	39,7	85,7	G1/2	45	69	M8x0,75	30	13
CFB-A25P-R1-*	2/2 NC	18	5	0,2 + 15	18	46,5	92,7	G3/4	54,4	74	M8x0,75	36	13
CFB-A26R-R1-*	2/2 NC	26	11	0,2 + 12	22,5	59,8	104,5	G1	71	93	M8x0,75	45	13
CFB-A27T-R1-*	2/2 NC	32	17	0,4 + 12	27,5	73,5	130	G1 1/4	86,6	111	G1/8	55	14
CFB-A28X-R1-*	2/2 NC	45	27	0,4 + 10	31	85	138,3	G1 1/2	110	138	G1/8	62	14
CFB-A29Z-R1-*	2/2 NC	50	36	0,4 + 10	37,5	98,8	152	G2	110	145	G1/8	75	14

New

Indirectly operated 2/2 NO solenoid valve



The pilot of these indirectly operated solenoid valves controls the diaphragm position through a differential pressure. These valves are therefore particularly suitable for controlling high fluid flow rates and require very low working pressures. Ports: from G3/8 to G2.

The standard diaphragm is supplied in NBR. On demand it can be supplied in FKM or EPDM.

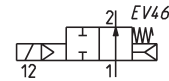
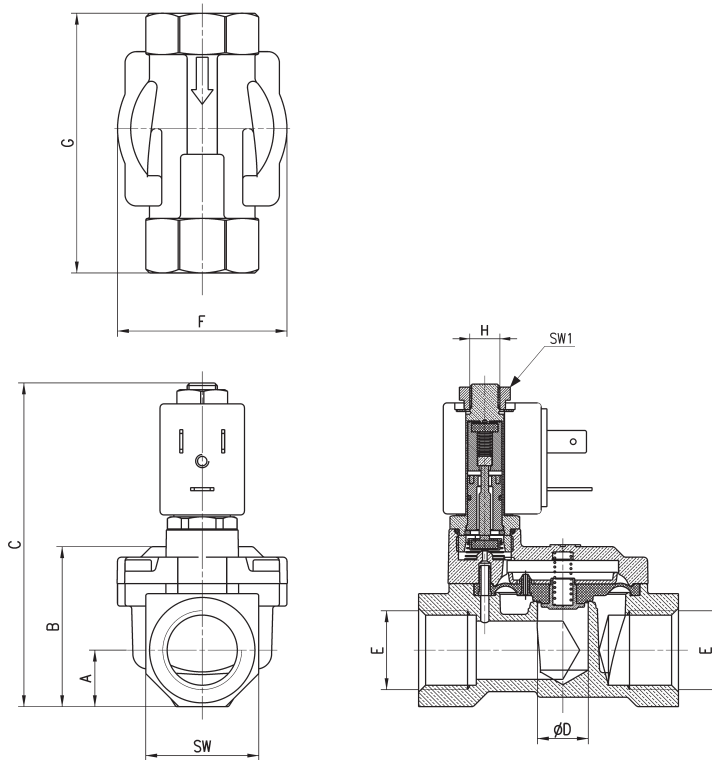


TABLE NOTE:

\* = choose the suitable solenoid (see the table on page 2/1.30.03).



Mod.	Function	Orifice ØD (mm)	Kv [m³/h with water]	Pressure min-max (bar)	A	B	C	E	F	G	H	SW	SW1
CFB-A13L-R1-*	2/2 NO	11,5	1,7	0,1 + 15	12	32,5	78,5	G3/8	41,9	57	M8x0,75	24	13,5
CFB-A14N-R1-*	2/2 NO	13,5	3,8	0,1 + 15	15	39,7	85,7	G1/2	45	69	M8x0,75	30	13,5
CFB-A15P-R1-*	2/2 NO	18	5	0,2 + 15	18	46,5	92,7	G3/4	54,4	74	M8x0,75	36	13,5
CFB-A16R-R1-*	2/2 NO	26	11	0,2 + 12	22,5	59,8	104,5	G1	71	93	M8x0,75	45	13,5
CFB-A17T-R1-*	2/2 NO	32	17	0,4 + 12	27,5	73,5	130	G1 1/4	86,6	111	G1/8	55	14
CFB-A18X-R1-*	2/2 NO	45	27	0,4 + 10	31	85	138,3	G1 1/2	110	138	G1/8	62	14
CFB-A19Z-R1-*	2/2 NO	50	36	0,4 + 10	37,5	98,8	152	G2	110	145	G1/8	75	14