

Constant flow valves CF

Constant pressure/flow relief valves for use with single nozzles or in pressure pipes with flows up to 2 l/min



CF-valves have a pre-determined pressure at the outlet side of the valve independent from the pressure at the inlet side. The pressure is only determined by the size of the CF-valve. Valves are available in 1.0/1.5/2.0 or 3.0 bar versions. In combination with a specific nozzle size a constant flow rate is guaranteed independent from pressure variations of the pump, e.g. at knapsack sprayers or piston pumps.

The CF-valve will only open when the determined pressure is reached and will not allow any further pressure increase. No further diaphragm or ball check valves are needed.

In combination with ISO- colour coded nozzles and different CF-valves the following constant flow rates can be reached:

Valve /pressure size in bar (psi)	Flow rate in l/min of different ISO nozzle types (gal/min)						
	-01 orange	-015 green	-02 yellow	-03 blue	-04 red	-05 brown	-06 grey
yellow 1.0 (15)	0.230 (0.06)	0.345 (0.09)	0.460 (0.12)	0.690 (0.18)	0.920 (0.24)	1.150 (0.30)	1.380 (0.36)
red 1.5 (21)	0.280 (0.07)	0.420 (0.11)	0.560 (0.15)	0.835 (0.22)	1.110 (0.29)	1.390 (0.37)	1.670 (0.44)
blue 2.0 (29)	0.325 (0.09)	0.490 (0.13)	0.650 (0.17)	0.980 (0.26)	1.305 (0.34)	1.630 (0.43)	— —
green 3.0 (44)	0.400 (0.11)	0.600 (0.16)	0.800 (0.21)	1.200 (0.32)	1.600 (0.42)	— —	— —



Easy assembling between sprayer lance and nozzle



50 mesh filter before CF-valve is recommended

Application examples:

Knapsack sprayers usually show a high pressure variation during application. Generally pressure is pumped up manually to 3–6 bar before starting spraying. During the application pressure decreases constantly till reservoir is empty. It is nearly impossible to calculate even an approximate application rate due to the high variability in pressure and flow rate.

Knapsack sprayers with diaphragm or piston pumps show high oscillation in spray pressure due to pump pulsations.

Using CF-valves will eliminate any pressure changes allowing operation of the knapsack sprayer at a unique pressure rate independent from pump type or operator fatigue. In combination with a nozzle the CF-valve controls the flow rate, droplet size and spray pattern to guarantee maximum accuracy of chemical application.

Assembling the CF-valve onto the sprayer lance is easy. Just screw off the nozzle, put the valve in between and fix the nozzle again on the outlet (male thread) of the valve. The CF-valve is available for different sprayer/screw threads, like G 3/8" (Solo) and M 18 x 1.5 (Hardi, Berthoud). Adaptor for G 3/8" to fit on M 11 x 1 (Maesto, Gloria) is available.



CF-valve with hose barbs

Characteristics:

- Opening pressure = working pressure, fixed
- Tolerance: approx. +/- 1.5 %
- Max. inlet pressure: 7 bar
- Thread: female thread at inlet, male thread at outlet, available in G 3/8" or M 18 x 1.5 respectively
- Recommended filter: 50 M or smaller
- Material: case in POM, internal parts POM/stainless steel, diaphragm in Viton® (EPDM on request)
- Length: 5 cm
- Diameter: 3.3 cm
- Weight: 19 g

Application examples:

Diaphragm or piston pumps generally have some pump pulsations, particularly small 12 V pumps. Assembling a CF-valve into the pressure pipe after the pump is an easy and economical way to eliminate this pulsation, especially for small scale sprayers.

Small spray booms often show a strong pressure drop between the nozzles, especially when fed by a hose with small diameter. Placing a CF-valve before each nozzle will eliminate this problem, dispensing the use of a pressure gauge (check for bypass to spray container).

CF-valves can be used also as an inline pressure relief valve. Ask us for the required fittings. Maximum flow should not exceed 2 l/min to guarantee best performance of the valve. For higher flows several valves may be installed parallel.

If one CF-valve supplies several nozzles, these nozzles can be switched on and off individually without pressure changes, not exceeding the flow limit of 2 l/min.

Using different CF-valves enables to operate individual nozzles at different pressures on the same system.

Using a CF-valve before the nozzle will allow running the pumping cycle at a higher pressure if required, e.g. for agitation or injection, without changing application rate of the nozzles.

CF Ventil

Part no.	Pressure	Thread
7221038	1.0 bar yellow (15 psi)	G 3/8"
7221018	1.0 bar yellow (15 psi)	M 18 x 1.5
7221538	1.5 bar red (20 psi)	G 3/8"
7221518	1.5 bar red (20 psi)	M 18 x 1.5
7222038	2.0 bar blue (30 psi)	G 3/8"
7222018	2.0 bar blue (30 psi)	M 18 x 1.5
7223038	3.0 bar green (44 psi)	G 3/8"
7223018	3.0 bar green (44 psi)	M 18 x 1.5

Adaptor parts for thread M 11 x 1

- Part no. 164G3/8-M11x1 brass adaptor (fits for filters F 50 M) with female thread
- Part no. 005200010 nut G 3/8"
- Part no. 11600044 adaptor screw with M 11 x 1 male thread



Ready assembled valve to fit onto M 11 x 1