

C 903 RH

Control valves

Flow limiter and altitude valve pilot operated

Bottom-fill version

Technical Data Sheet



Description

The control valves C 903 RH controls and maintains a maximum flow and high level in a tank by means of a modulating altitude pilot. Opening and closing are very progressiv in the few centimeters near the required level. This type of valve must be used when the supply pressure is noticeably higher (1 bar) than the charge of full tank. Equipped with non-return valves, it closes automatically in case of backflow (C903C - consult us).



C 903 RH

Flow limiter and altitude valve pilot operated / Bottom-fill version

DN mm	PN	PFA in bar	PS				Cat	Ref.	Weight* Kg
			L1	L2	G1	G2			
40	10/16/25	25	25	25	x	x	4.3	149B011549	15
50	10/16/25	25	25	25	x	x	4.3	149B011551	16
65	10/16/25	25	25	25	x	x	4.3	149B90306N	24
80	10/16/25	25	25	25	x	x	4.3	149B90308N	29
100	10/16	16	16	16	x	x	4.3	149B90310N	42
125	10/16	16	16	16	x	x	4.3	149B90311N	63
150	10/16	16	16	16	x	x	4.3	149B90312N	77
200	10	10	10	10	x	x	4.3	-	127
250	10	10	10	10	x	x	I	-	218
300	10	10	10	10	x	x	I	-	348

* Weight of valve alone

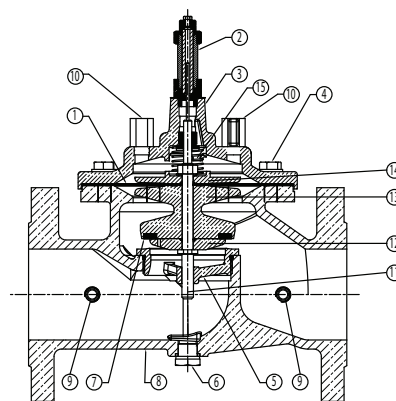
Important notice :

The indicated pressure for the different categories of fluids (L1/L2/G1/G2) is under no condition a guarantee of use. Therefore, it is essential to validate the use of products under given operating conditions.

Technical features	
Operating temperature	-10 to 80°C, for temperatures over 80°C consult us
Upstream pressure	Mini. : 1,5 bar / Maxi. : 25 bar (see table above)
Connection	With flange PN (see table above)
Mediums	Clear water 2 mm
Viscosity	< to 40 cst
Vertical mounting	See option n°7

Nomenclature and materials

N°	Description	Materials
1	Membrane	EPDM / Polyamide
2	Position indicator with drain	Brass and stainless steel
3	Valve head high pressure	Cast iron / Epoxy Int/Ext
4	Nuts and bolts	Stainless steel
5	Removable seat	Stainless steel
6	Body drain plug and valve	Brass
7	Reversible seat seal	EPDM
8	Body high pressure	Cast iron / Epoxy Int/Ext 200μ ± 40μ
9-10	Pressure connection drilling	Chromed brass
11	Stem	Stainless steel
12	Flange	Stainless steel
13	Seal carrier	Bronze (DN40-50) Ductile iron / Epoxy
14	Plate	Bronze (DN40-50) Ductile iron / Epoxy
15	Spring	Stainless steel



standard flow valve C 900

Approvals



International construction Standards :

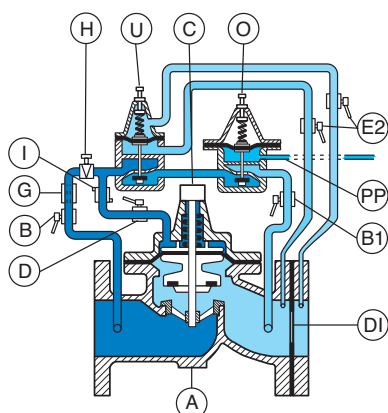
Directive 2014/68/UE

Connection with flange PN according to EN 1092-2

Application

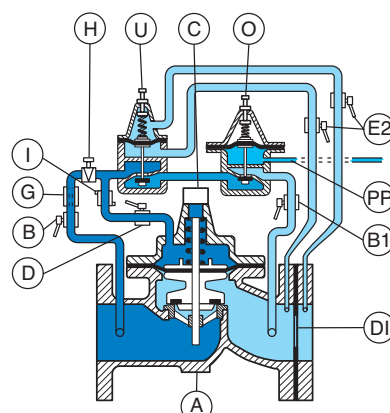
The control valves C 903 RH allows controls a high level in a tank and guarantees its filling by a maximal flowrate, thus avoiding to penalize the network.

Operation



Bottom-filling :

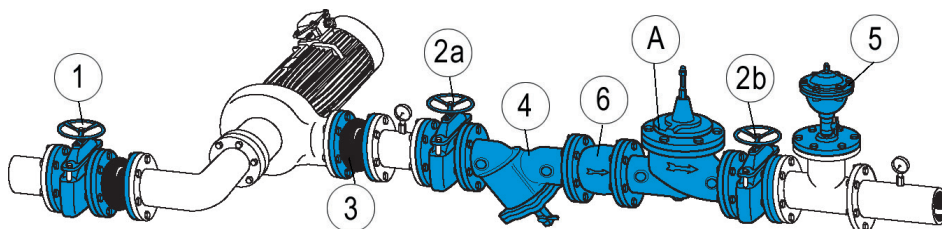
No pressure connection of pilot to the tank. When the water level becomes smaller than the preset upper level, pilot (O) is open, pilot (U) is half-open, the pressure releases out of the chamber, valve (A) opens.



Bottom-filling :

No pressure connection of pilot to the tank. When the water level is high, pilot (O) will close. Whatever the position of pilot (U), the upstream pressure fills the chamber and valve (A) closes.

Installation



C 903 RH - Control valves installation diagram

N°	Description
A	Main valve
B	Upstream isolation valve
B1	Downstream isolation valve
C	Position indicator with drain
D	Chamber isolation valve
DI	Diaphragm
E2	Diaphragm isolation valve
G	Filter
H	Orifice-needle valve
I	Flow control
O	Pilot C201
PP	Outlet pressure of the tank to pilot
U	Pilot C901
1	Isolation valve
2a	Upstream isolation valve of the main pipe and of the pump
2b	Downstream isolation valve of the main water pipe
3	Rubber expansion joint
4	Filter
5	Single function air valve
6	Non return valve of the pump

Setting range :

Pilot C901 :

- 0 to 0,689 bar
- 0,14 to 2,41 bar

Pilot C201 :

- 0,14 to 1,38 bar
- 1,38 to 2,75 bar
- 2,07 to 5,5 bar

Installation :

- install an air relief valve downstream or at the high point near the control valve.
- horizontal setting up : the cap of the valve should be oriented to the top and inclined at 45°C maximum.
- vertical setting up : change the spring of the main valve (option 7)
- keep a downstream pressure.

Other types :

- C903S, C903M

Maintenance

We recommend a maintenance programme of between 6 to 12 months according to the quality of the water and to the pressure :

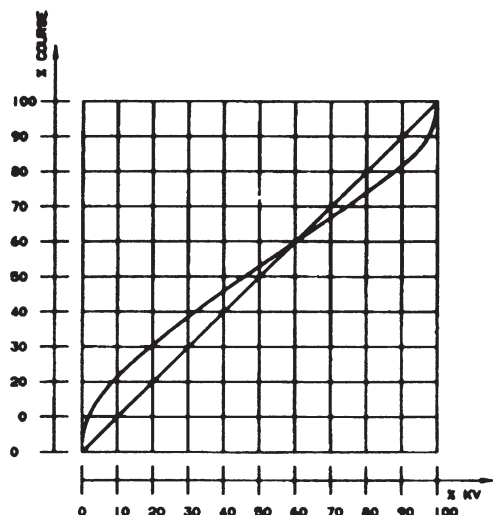
- Purging the upper chamber
- Flushing the valves not frequently used
- Checking and cleaning filters of the pilot circuit and main piping system.
- Checking the working (pressures)

Every 5 years, general maintenance is advisable :

- Dismantling
- Cleaning of main valve and pilot valve
- Preventive removing of the seals (set available - please consult us)
- Reassembling and tests.

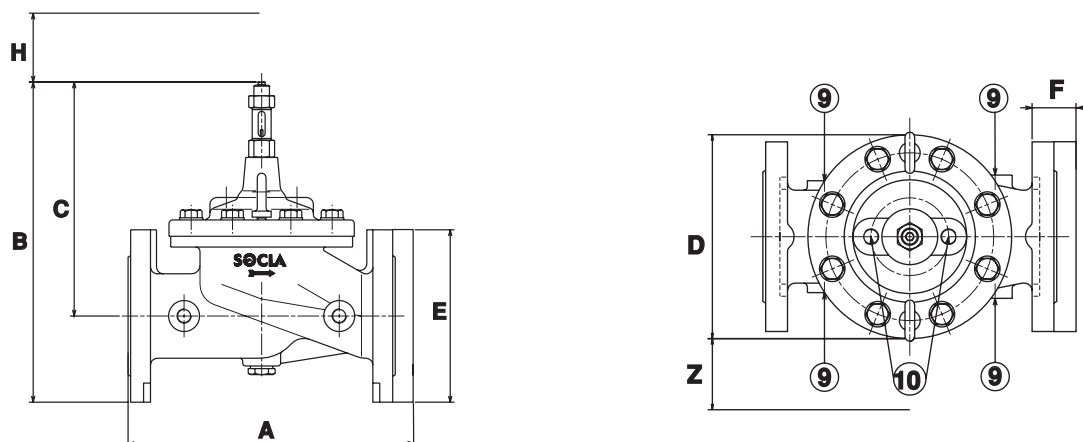
Operating characteristics

Choice of base valve



DN	Mini	Maxi	KV		ζ	PN	PFA	PN	PFA	PN	PFA
			m³/h	L/s		bar	bar	bar	bar	bar	bar
40	4,5	32,00	45,66	12,68	1,93	10/16	16	25	25	-	-
50	7	32,00	45,66	12,68	4,70	10/16	16	25	25	-	-
65	12	54,00	57,75	16,08	8,39	10/16	16	25	25	-	-
80	18	82,00	80,00	22,22	10,00	10/16	16	25	25	-	-
100	28	127,00	136,00	37,78	8,47	10/16	16	25	25	-	-
125	44	199,00	220,00	61,11	7,90	10/16	16	25	25	-	-
150	64	286,00	264,00	73,33	11,38	10/16	16	25	25	-	-
200	113	509,00	600,00	166,67	6,96	10	10	25	25	16	16
250	177	795,00	900,00	250,00	7,56	10	10	25	25	16	16
300	255	1145,00	1224,00	340,00	8,47	10	10	25	25	16	16

Sizing



standard flow valve C 900

DN	A	B	C	D	E	F	G	H	Z	9	10
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	"	"
40	274	285	210	170	152	23	57	55	254	1/4	1/4
50	274	285	210	170	161	23	57	55	254	1/4	1/4
60	314	352	257	200	185	24	48	76	254	3/8	1/4
65	334	372	272	217	200	26	50	90	254	3/8	3/8
100	374	423	302	241	235	28	52	90	254	3/8	3/8
125	430	506	371	296	270	30	60	100	254	3/8	3/8
150	512	551	401	363	300	20	52	100	254	3/8	3/8
200	626	709	529	467	360	22	48	114	254	3/8	3/8
250	760	844	631	587	425	24	54	127	254	1/2	1/2
300	880	975	730	680	486	27	57	140	254	1/2	1/2

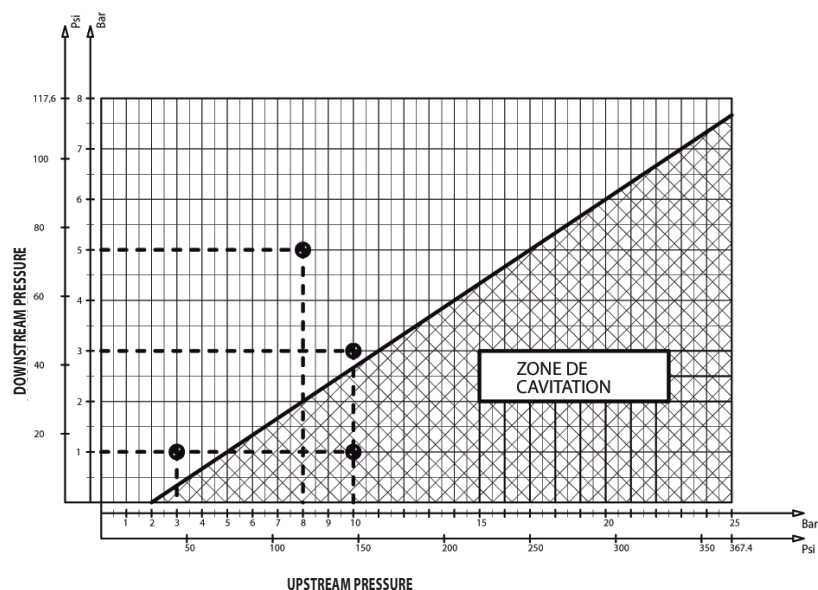
Other operating characteristics

Cavitation

A too large differential pressure and a low downstream pressure may result in damage to the valve by cavitation.

To avoid it, refer to the cavitation curve and if needed, reduce the differential pressure by installing and connecting two or more control valves in same line (consult us).

Stainless steel seat and counter seat are standard.



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ISO 9001 version 2015 / ISO 18001