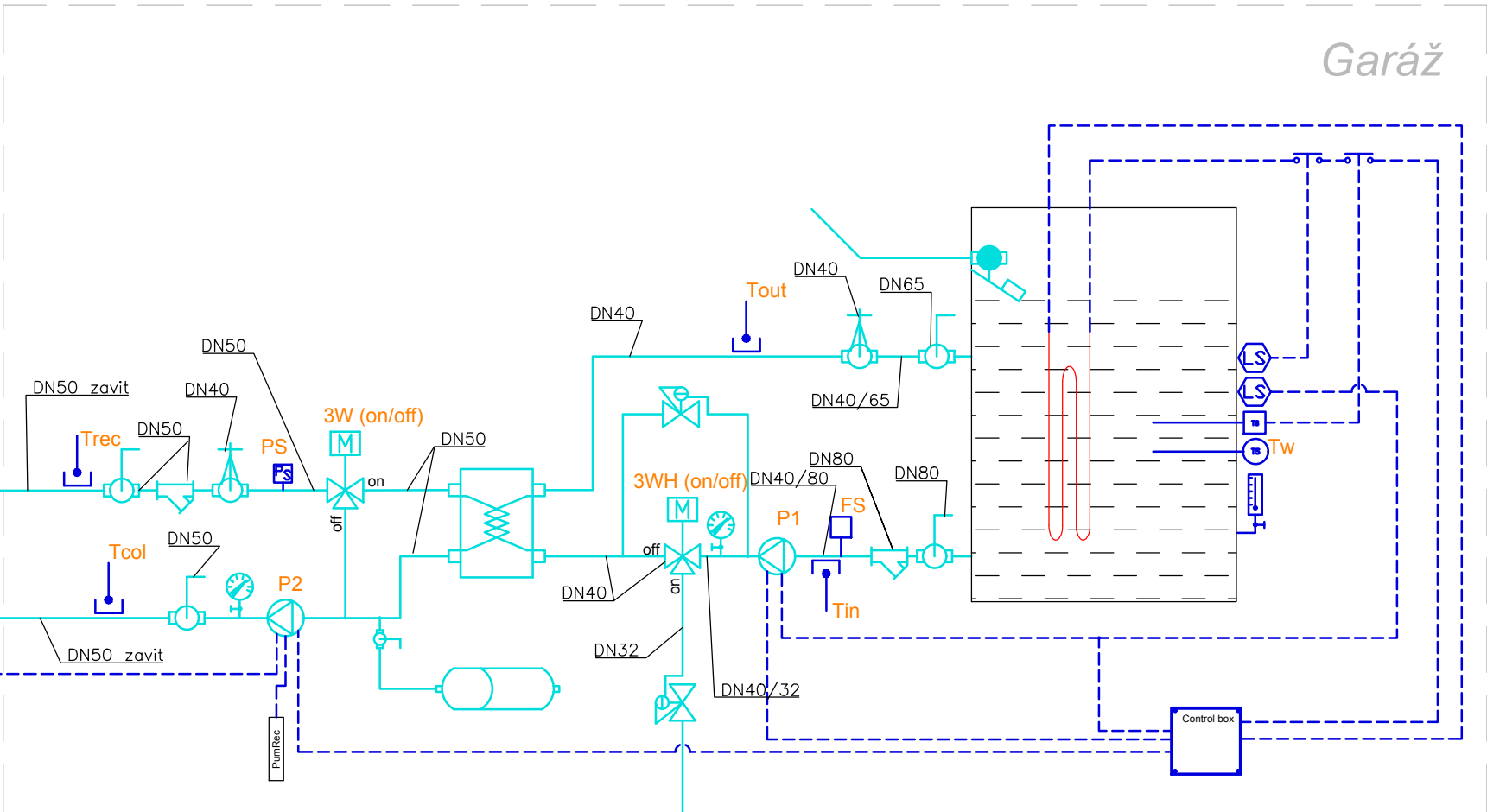
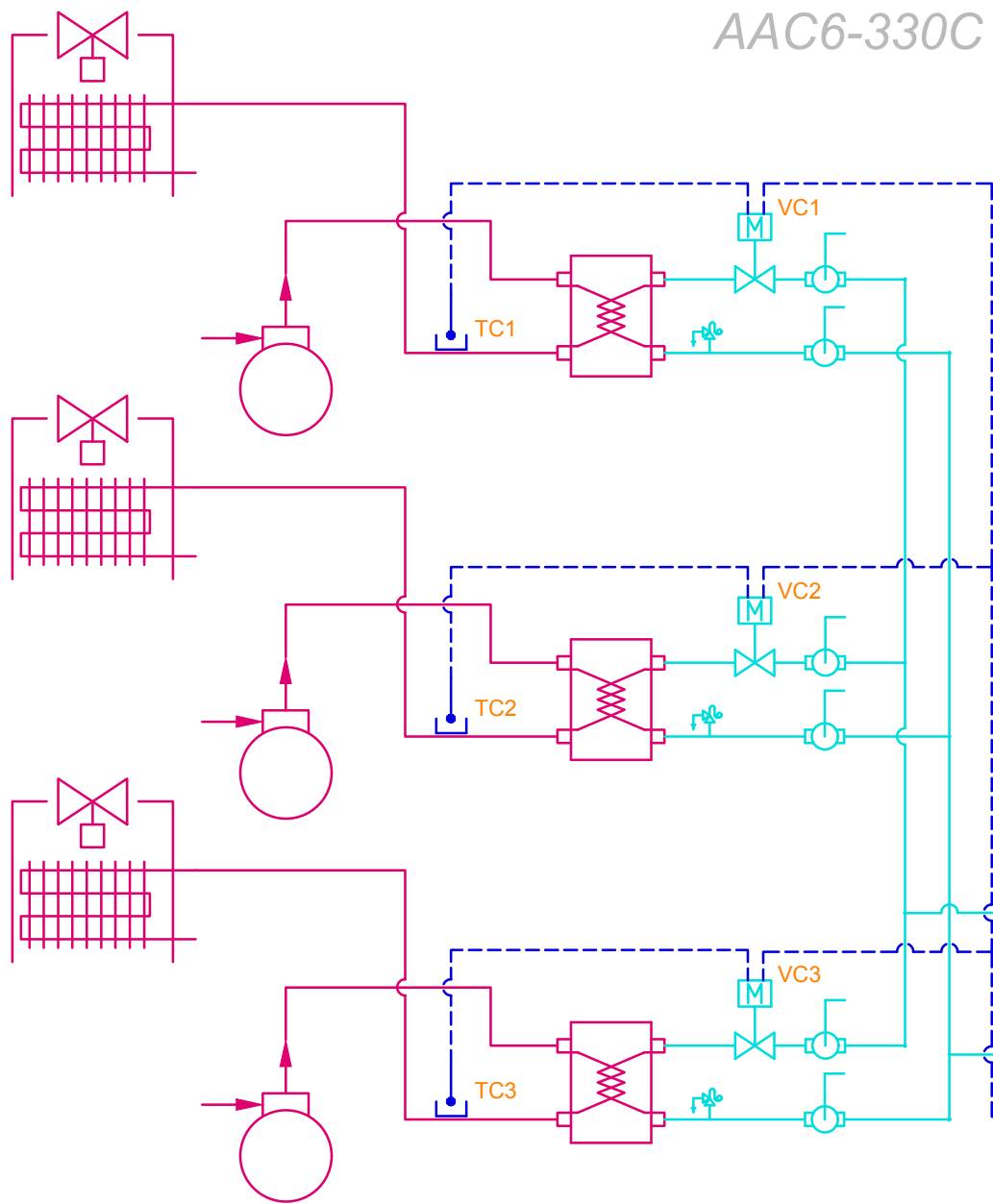


- Mechanical control for heaters, P1 and P2: P1(FS), P2(PS), H1..H3(LS)
- P1 controls by switch ON, FS, Tw, button W
- P2 controls by switch ON, PumRec, VCx, Trec, Tin
- 3W prevent BPHE from freezing, controls by Trec, P1
- 3WH for filling ice machine, controls by button W

	AI	DI	DO
1	TC1	P1	P1
2	TC2	P2	P2
3	TC3	H	VC1
4	Tcol	LS	VC2
5	Trec	FS	VC3
6	Tout	W	H1
7	Tin	PumRec	H2
8	Tw	ON	H3
9			3W
10			3WH

- P1:
- start by ON[1]
 - control by flow switch FS (delay dP1 (30..600s))
 - stop $Tw \geq SPTw$, differential DTw (5..20K)
 - start by button W[1]
- P2:
- start (ON[1] and PumRec[1] and (VC1[1] or VC2[1] or VC3[1])), delay after VC*[1] dVC (30..200s)
 - stop ($Tin - Trec \geq DTinrec$ (1..10K) (delay dTinrec (30..200s)) and 3W[1])
 - stop ($Tcol - Trec \geq DTcolrec$ (1..10K) (delay dTcolrec (30..200s)) and 3W[1])
 - stop VCx[0]
- 3W:
- off (P2[0] or $Trec < SPTrec$ (10..40°C))
 - on (P2[1]) and $Trec \geq SPTrec$ (delay 60s)
- 3WH:
- on (button W[1])
 - off (delay dW (180..900s) after W[1])
- VCx (x=1,2,3):
- on $TCx \geq SPTCx$ (25..70°C) and PumRec[1]
 - off $TCx < SPTCx$ delay dVC (60..900s)
- H1..H3:
- start by ON[1]
 - control by PI regulator
 - stop $Tw \geq SPTw$, differential DTw (5..20K)



	Pressure valve
	Balancing valve
	Shut off valve

	3-way valve (on/off)
	2-way valve (on/off)
	Filter strainer

	Pressure switch
	Flow switch

