

TEMPERATURE CONTROLLERS OF DIRECT CONTINUOUS OPERATION ARE USED IN AUTOMATIC TEMPERATURE CONTROL SYSTEMS IN HEATING INDUSTRY, AIR CONDITIONING, VENTILATING AND IN ALL BRANCHES OF INDUSTRY.

TEMPERATURE CONTROLLER SELECTION OF LIQUID TEMPERATURE SENSOR AND CONTROL VALVE

Liquid temperature sensor type	Proportionality range in °C, in connection with control valve					
	Control valve type					
	MED-01 MEO-01 MEZ-01	MED-02 MEO-02 MEZ-02	MED-03 MEO-03 MEZ-03	MED-04 MEO-04 MEZ-04	MED-05 MEO-05 MEZ-05	MED-06 MEO-06 MEZ-06
HCT-01-01 HCT-02-01 HCT-03-01 HCT-04-01 HCT-05-01	7.5	10	12.5	15	15	24
HCT-01-02 HCT-02-02 HCT-03-02 HCT-04-02 HCT-05-02	5	6.5	8	9.5	9.5	15

The proportionality range shown in the double frame are the standard values recommended for use.

DESIGN

The temperature controller of direct continuous operation consists of:

- liquid temperature sensor,
- control valve, which are connected with each other by means of the disconnectable threaded connector.

Depending on the control valve type, the controllers are divided into the following:

- two-way type,
- opening type,
- closing type.

THREE-WAY CONTROL VALVES

TECHNICAL DATA

- Nominal pressure - 1.6MPa
- Working temperature - up to 150°C for soft closing component; up to 250°C for hard closing component

Valve type	Max. permissible pressure before valve for water	Max. permissible P for water		K _v value ±10%	Max. leakage	Overall dimensions in mm						
		MPa	M			R	m ³ /h	l/min	D _n	D _p	D _k	d _o
MED-01-01*...02**	1.3	0.6	0.2	3.6	0.30	15	65	95	14	130	120	118
MED-02-01...02	1.3	0.8	0.15	6.0	0.40	20	75	105	14	150	140	129
MED-03-01...02	1.3	0.8	0.12	10.0	0.50	25	85	115	17	160	145	129
MED-04-01...02	1.2	0.8	0.08	12.0	0.63	32	100	140	18	180	150	148
MED-05-01...02	1.2	0.6	0.05	16.5	0.80	40	110	150	18	200	155	148
MED-06-01...02	1.2	0.6	0.05	25.0	1.00	50	125	165	18	230	205	167

Leakage measured for water at $\Delta p = 0.2\text{MPa}$

* - hard closing component

** - soft closing component

TWO-WAY CONTROL VALVES - OPENING AND CLOSING TYPES

TECHNICAL DATA

- Nominal pressure - 1.6MPa
- Working temperature - up to 150°C for soft closing component; up to 250°C for hard closing component

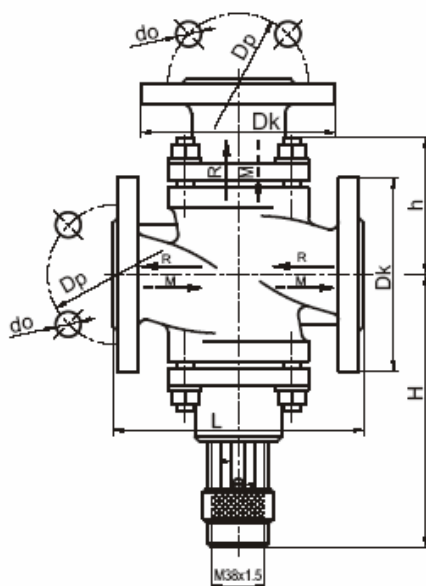
Valve type	Max. permissible pressure before valve for water	Max. permissible P for water		K _v value ±10%	Max. leakage	Overall dimensions in mm						
		MPa	water			air	m ³ /h	l/min	D _n	D _p	D _k	d _o
MEO-01-01*...02**	1.3	1.2		3.6	0.06	15	65	95	14	130	120	118
MEZ-01-01...02	1.5	1.2	1.3		0.06	15	65	95	14	130	120	118
MEO-02-01...02	1.3	1.3		6.0	0.08	20	75	105	14	150	140	129
MEZ-02-01...02	1.3	1.3	1.3		0.08	20	75	105	14	150	140	129
MEO-03-01...02	1.3	0.8		10.0	0.10	25	85	115	17	160	145	129
MEZ-03-01...02	1.5	0.8	1.3		0.10	25	85	115	17	160	145	129
MEO-04-01...02	1.2	0.9		12.0	0.13	32	100	140	18	180	150	148
MEZ-04-01...02	1.2	0.9	1.3		0.13	32	100	140	18	180	150	148
MEO-05-01...02	1.2	0.6		16.5	0.16	40	110	150	18	200	155	148
MEZ-05-01...02	1.2	0.6	1.3		0.16	40	110	150	18	200	155	148
MEO-06-01...02	1.0	0.5		25.0	0.20	50	125	165	18	230	205	167
MEZ-06-01...02	1.2	0.5	1.3		0.20	50	125	165	18	230	205	167

Leakage measured for water at $\Delta p = 0.2\text{MPa}$

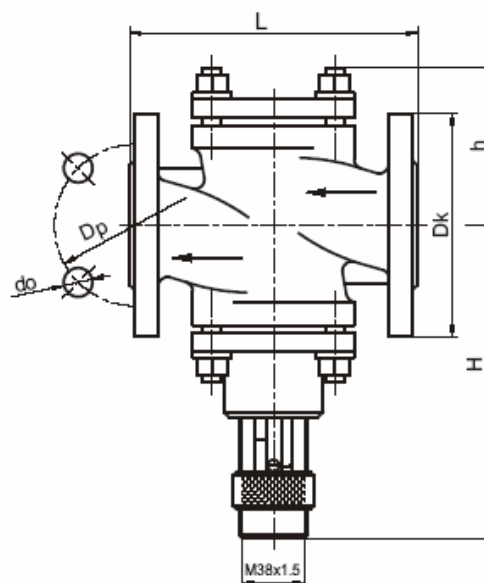
* - hard dosing component

** - soft closing component

Three-way control valve, type MED-....



Two-way control valve - opening and closing, type MEO-.... and MEZ-....



LIQUID TEMPERATURE SENSORS

The liquid temperature sensors type HCT- are designed for controlling the control valves type MED-, MEO-, MEZ-. The HCT- sensors can co-operate with valves of 'MERTIK' Company make, using the manual setter of HC3-0030 symbol.

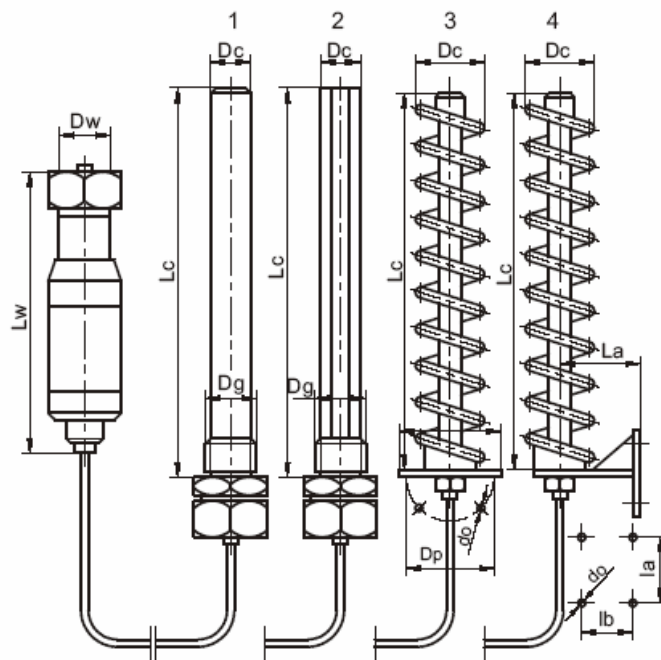
TECHNICAL DATA

Sensor type	Set-point range	Proportionality range	Time constant		Over-heating temp.	Sensor material	Overall dimensions						D _g	D _w	L Capillary length
			water	air			L _c	D _c	D _p	d _c	l _a	l _b			
	°C	mm/°C	s		°C	mm									
HCT-01-01 HCT-01-02	-20...+50	0.4	75		50	brass	236	22	—	—	—	—	1"	M38 x1.5	3m 6m 9m
HCT-02-01 HCT-02-02		0.6	20		40	brass	361	28	—	—	—	—			
HCT-03-01 HCT-03-02	0...70 30...100	0.4 0.6	12	80	40	copper	180 245	75	100	14	—	—	—	M38 x1.5	3m 6m 9m
HCT-04-01 HCT-04-02	60...130	0.4 0.6			50 40	copper	180 245	75	—	5.5	80	50			
HCT-05-01 HCT-05-02		0.4 0.6	80		50 40	1H18N9T steel	253 388	21.3	—	—	—	—	1"		

REMARK: Standard version +30...100°C

METHOD OF VERSION DENOTING FOR LIQUID TEMPERATURE SENSORS

Liquid temperature sensors	HCT-	()	()	()	()
Sensor shape:					
- tube		-01			
- multi-tube		-02			
- spiral with flange		-03			
- spiral with hanger		-04			
- acid-proof steel tube		-05			
Proportionality range Xp:					
- Xp = 0.4 mm/°C		-01			
- Xp = 0.6 mm/°C		-02			
Capillary tube length:					
- 3m		-1			
- 6m		-2			
- 9m		-3			
Setting range in °C:					
- 30...100		-1			
- 0...70		-2			
- 20...50		-3			
- 60...130		-4			



ORDERING

One should give full product name and symbol in his order, for example:
Liquid temperature sensor HCT-01-01-2-1

ORDERING OF TEMPERATURE CONTROLLERS TREC

One should give full product name and symbol in his order, e.g.
Temperature controller of direct continuous action type HCT-01-01-1-1 + valve MEZ-01-02

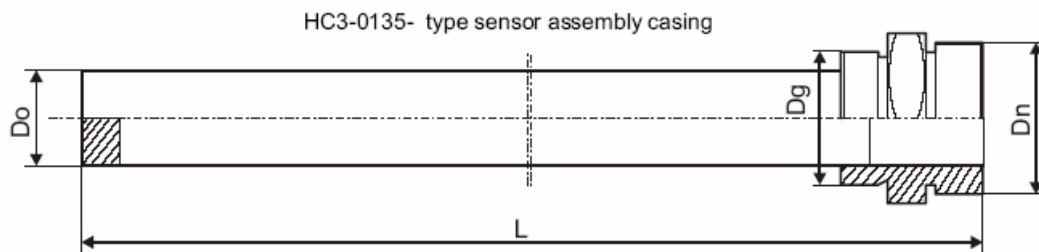
The right of introducing design changes in the product, without deteriorating of its operation parameters, is reserved.

ADDITIONAL EQUIPMENT

SENSOR ASSEMBLY CASING

The tube sensor assembly for temperature sensors HCT-01- can be placed in a casing, its symbol is - HC3-0135. This casing protects the sensor tube and allows to replace the sensor assembly, without the need to disconnect the installation.

Casing symbol	Overall Dimensions			
	L	Do	Ds	Dn
HC3-0135-1	250mm	25mm	1"	M38x1.5
HC3-0135-2	395mm			



MANUAL SETTER

The Liquid temperature sensors HCT- can co-operate with control valves of 'MERTIK' Company make, using the manual setter of HC3-0030 symbol - for valves of 15 to 40 mm dia.; while HC3-0148 - for valves above 50 mm dia.

Manual setter HC3-0148 and HC3-0030

