



ATOL

TUBULAR RADIATORS



ATOL – TUBULAR RADIATORS

ATOL is interesting old fashion design steel tubular radiator. Smooth round shape of the tubular radiator made the radiator save. For its optimal design and friendly shape can be ATOL used in public buildings as well as in residential buildings. ATOL radiators guarantee easy service and cleaning.

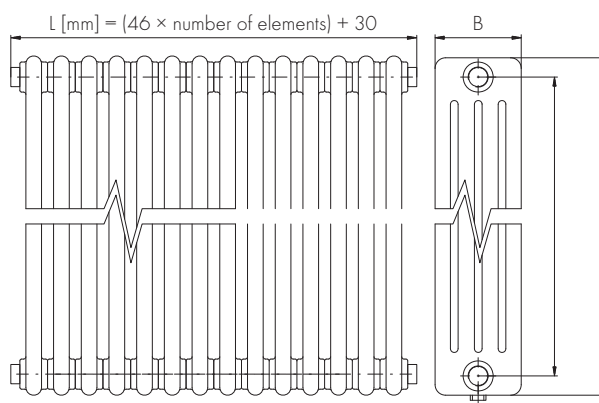
ATOL radiators have low weight which makes the manipulation easy. Elements of tubular radiators are made of steel tubes. They are ideal compensation for classical multi column cast-iron radiators. Tubular radiator ATOL has excellent circulation of the heating liquid and is suitable for the low temperature systems.

- Elegant radiator with a smooth surface
- Ideal compensation for classical multi column radiator
- Round shapes minimize the risk of injury
- Easy service and cleaning
- High heat output
- Excellent circulation of the heating liquid
- Suitable also for the low-temperature systems



BASIC SPECIFICATION

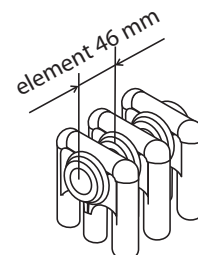
Material:	steel tubes diameter 25 mm, thickness 1,25 mm
Max. operating overpressure:	1 MPa (10 bar)
Testing overpressure:	1,3 MPa (13 bar)
Max. operating temperature:	95 °C
Basic colour:	snow white RAL 9016
Connection thread:	4 × G1/2" (G3/4" or G1" on request) 2 × G1/2" when bottom connection
Width of one element:	46 mm +/- 1,5 %
Max. number of elements:	40 pcs








ORDERING FORM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	A	T	2	0	9	0	0	0	3	2	W	A	D	0	1
model				height			number of elements				mounting	connection		colour	

ATOL C2, height 900 mm, 32 elements, mounting on wall, connection AD, colour RAL 9016



TECHNICAL SPECIFICATION OF TUBULAR RADIATORS

Type	Height H [mm]	Distance A [mm]	Depth B [mm]	Water content [l]	Weight [kg]	Heating output 75/65/20 °C [W] / element	Temperature exponent n [-]
	300	230	66	0,42	0,47	23,1	1,24
	400	330	66	0,49	0,62	30,1	1,24
	500	430	66	0,57	0,76	37,1	1,25
	600	530	66	0,65	0,91	44,0	1,25
	750	680	66	0,77	1,13	54,4	1,26
	900	830	66	0,89	1,34	64,8	1,27
	1 000	930	66	0,97	1,49	71,7	1,27
	1 500	1 430	66	1,37	2,21	107,1	1,30
	1 800	1 730	66	1,61	2,65	129,0	1,31
	2 000	1 930	66	1,77	2,94	144,0	1,31
	300	230	107	0,60	0,85	32,2	1,26
	400	330	107	0,72	1,08	41,9	1,26
	500	430	107	0,83	1,29	51,4	1,26
	600	530	107	0,95	1,51	60,9	1,26
	750	680	107	1,13	1,83	75,0	1,26
	900	830	107	1,31	2,16	89,2	1,26
	1 000	930	107	1,43	2,38	98,6	1,26
	1 500	1 430	107	2,03	3,47	146,7	1,30
	1 800	1 730	107	2,39	4,13	176,4	1,33
	2 000	1 930	107	2,62	4,56	196,6	1,32
	300	230	148	0,78	0,94	42,5	1,24
	400	330	148	0,93	1,24	55,8	1,25
	500	430	148	1,09	1,52	68,9	1,26
	600	530	148	1,25	1,81	81,9	1,27
	750	680	148	1,49	2,26	101,2	1,28
	900	830	148	1,73	2,69	120,4	1,29
	1 000	930	148	1,89	2,98	133,1	1,29
	1 500	1 430	148	2,68	4,44	196,4	1,30
	1 800	1 730	148	3,16	5,31	234,3	1,30
	2 000	1 930	148	3,48	5,88	259,6	1,30
	300	230	189	0,97	1,20	51,6	1,30
	400	330	189	1,17	1,57	67,2	1,30
	500	430	189	1,63	1,93	82,6	1,29
	600	530	189	1,56	2,30	97,8	1,29
	750	680	189	1,86	2,84	120,4	1,28
	900	830	189	2,16	3,38	142,7	1,28
	1 000	930	189	2,36	3,75	157,6	1,29
	1 500	1 430	189	3,35	5,57	231,8	1,32
	1 800	1 730	189	3,95	6,65	276,5	1,34
	2 000	1 930	189	4,35	7,38	306,5	1,33
	300	230	230	1,16	1,60	62,2	1,31
	400	330	230	1,39	2,04	81,5	1,31
	500	430	230	1,63	2,47	100,6	1,31
	600	530	230	1,87	2,91	119,4	1,30
	750	680	230	2,23	3,57	147,2	1,30
	900	830	230	2,59	4,21	174,6	1,30
	1 000	930	230	2,83	4,65	192,7	1,30
	1 500	1 430	230	4,02	6,84	281,6	1,30
	1 800	1 730	230	4,73	8,14	334,0	1,31
	2 000	1 930	230	5,21	9,01	368,5	1,32
2 500	2 430	230	6,40	11,19	453,8	1,33	

HEATING OUTPUT RECALCULATION FOR ANOTHER TEMPERATURE GRADIENT

Heating output get as the recalculation of normalized output Q_n 75/65/20 °C

$$Q = Q_n * \Psi * \left(\frac{\Delta T}{50}\right)^n \text{ [W]}, \text{ where } \Delta T = \left(\frac{T_1 + T_2}{2}\right) - T_i \text{ [}^\circ\text{C]}$$

Q	[W]	required heating output for selected temperature gradient
Q_n	[W]	heating output for temperature gradient $T_1/T_2/T_i = 75/65/20$ °C
Ψ	[-]	mass flow rate coefficient (for current flow rate $\psi=1$)
T_1, T_2	[°C]	input, output water temperature
T_i	[°C]	room temperature
n	[-]	temperature exponent

Example:
What is the heating output of Atol C3, h=600, 30 elements, for temperature gradient 70/55/20 °C?

From heating outputs table:

Q_n	60,9 W	- output of element C3 at 75/65/20 °C
$Q_n(30)$	1 827 W	- output of 30 elements at 75/65/20 °C
n	1,26	- temperature exponent

From the task:

T_1 70 °C; T_2 55 °C; T_i 20 °C

Calculation:

$$\Delta T = ((70+55)/2) - 20 \text{ }^\circ\text{C} = 42,5 \text{ }^\circ\text{C}$$

$$Q(30) = 1827 * 1 * (42,5/50)^{1,26} = 1489 \text{ W}$$

HEATING WATER FLOW RATE THROUGH RADIATOR

$$M = 0,86 * Q / (T_1 - T_2) \text{ [kg/h]}$$

M	[kg/h]	mass flow rate, heating water flowing through radiator
Q	[W]	radiator heating output
$T_1 - T_2$	[°C]	difference between input and output temperature
0,86	[-]	constant for recalculation of units

Example:

What is mass flow rate of radiator Atol C3, h=600, 30 elements for temperature gradient 70/55/20 °C?

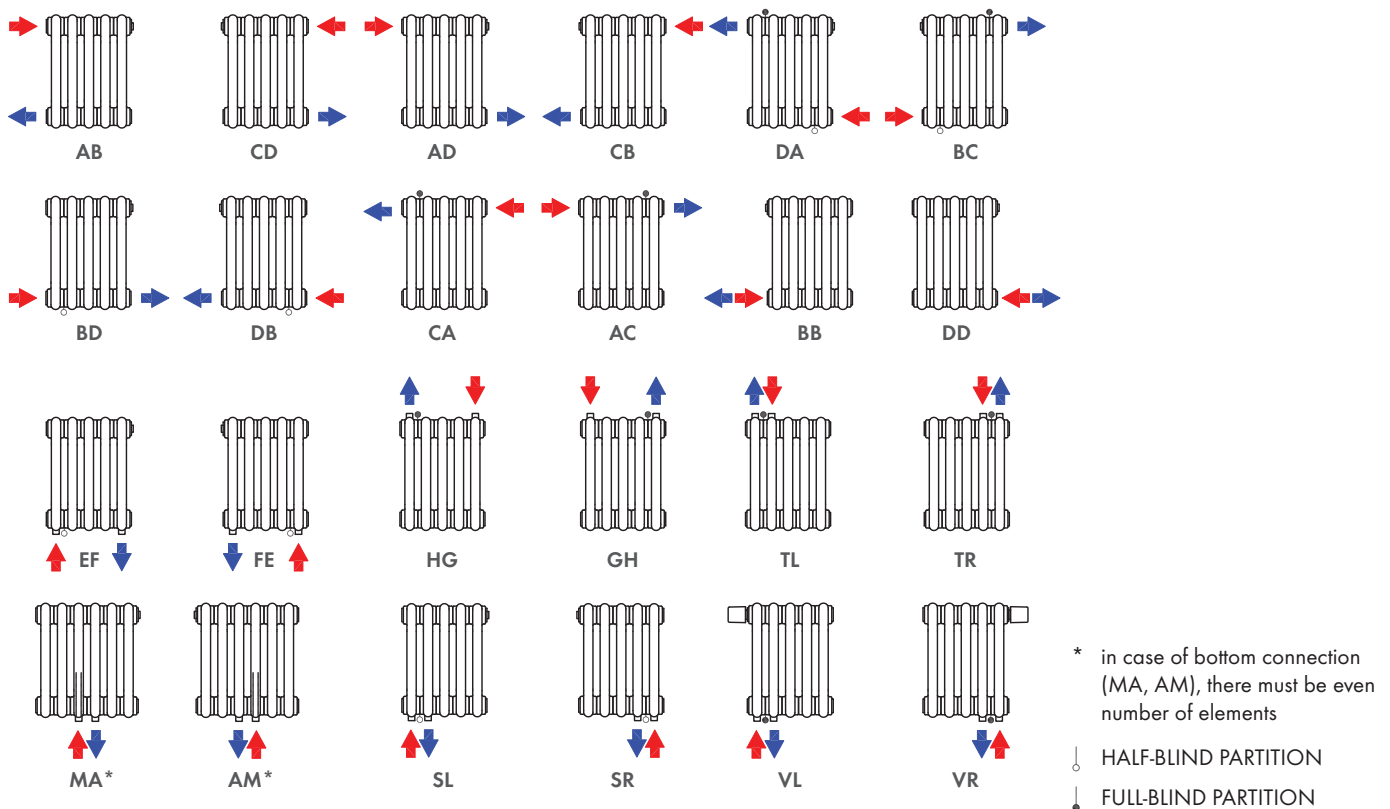
Q	1 489 W	see the previous example
T_1	70 °C	
T_2	55 °C	

Calculation:

$$M = 0,86 * 1489 / (70 - 55) = 85 \text{ kg/h}$$

OPTIONS OF CONNECTION TUBULAR RADIATORS

Chosen type of connection write on position 13, 14 into ordering form.



POSSIBILITIES OF MOUNTING

MOUNTING ON WALL

Into ordering form on position 12 write letter W



L < 1 m - 3 pcs
L > 1 m - 4 pcs

ALTERNATIVE MOUNTING FOR VARIOUS TYPES OF WALLS

Into ordering form on position 12 write letter G



GTXP



Bracket	Height of radiator [mm]	Number of brackets		
		Number of elements		
		4-20	21-35	36-40
GTX	300-1000	2	3	4
GTX+GTXP	1500-2000	2	4	5

MOUNTING ON FLOOR

Into ordering form on position 12 write letter F



According to customers wishes Atol radiators can be delivered with fixing legs for mounting on floor.

L < 1 m - 2 pcs
L > 1 m - 3 pcs

Plastic covers are available only in white colour.

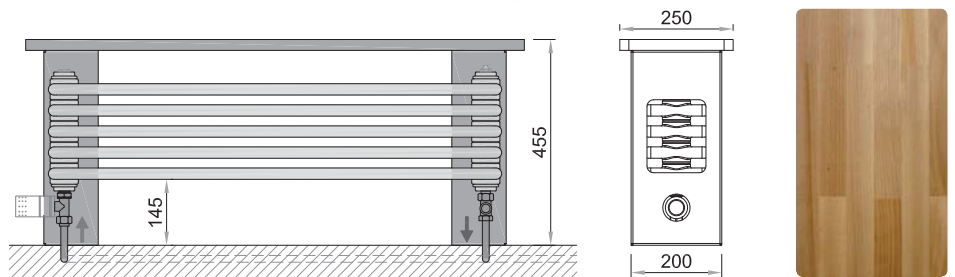


ATOL IN THE DESIGN OF HEATING BENCH



- Stable legs
- Hidden connection fittings
- Solid beech wood board
- Wide selection of colors

Suitable for using in public buildings, corridors, gyms, locker rooms, vestibules and foyers.



Type	Dimensions of bench [mm]			Connection span [mm]	Weight [kg]	Output [W] 75/65/20 °C	Ordering code
	Height	Length	Depth				
Atol L4	455	1100	250	930	27,5	466	CAB4L4551100SF01
Atol L4	455	1300	250	1130	31,8	555	CAB4L4551300SF01
Atol L4	455	1600	250	1430	35,7	687	CAB4L4551600SF01

COLOUR FINISH OF RADIATORS

Surface treatment of Atol radiators is performed by baked-on powder epoxy-polyester paint.

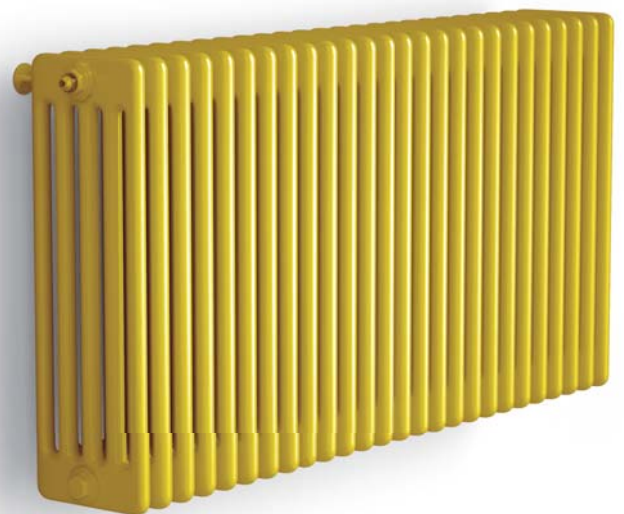
EXAMPLES OF COLOUR FINISH:



Into ordering form on position 15, 16 write: RAL9016 (code 01), RAL9001 (code 04), RAL 9005 (code 19), RAL 9006 (code 20), RAL 7024 (code 39), RAL 8017 (code 46).

If interested in other colours from RAL colour chart (basic colour chart) and from ISAN Melody colour card, please contact the sales department of ISAN Radiátory s.r.o

For all colours outside ISAN Melody colour chart, please write on the position 15, 16 code 99 and chosen colour describe to note.





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