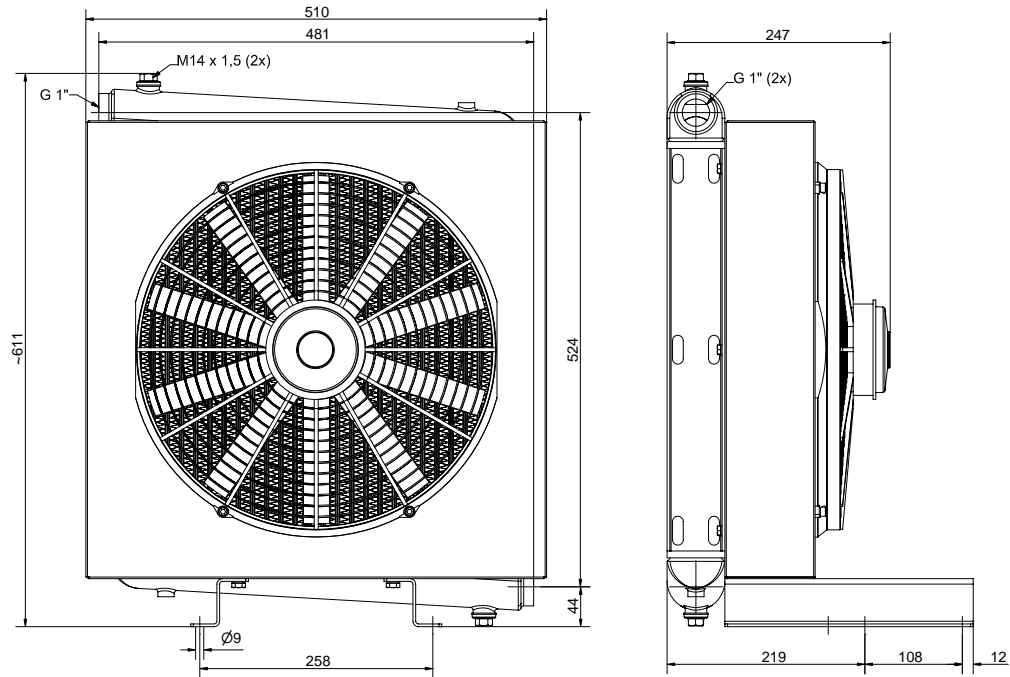
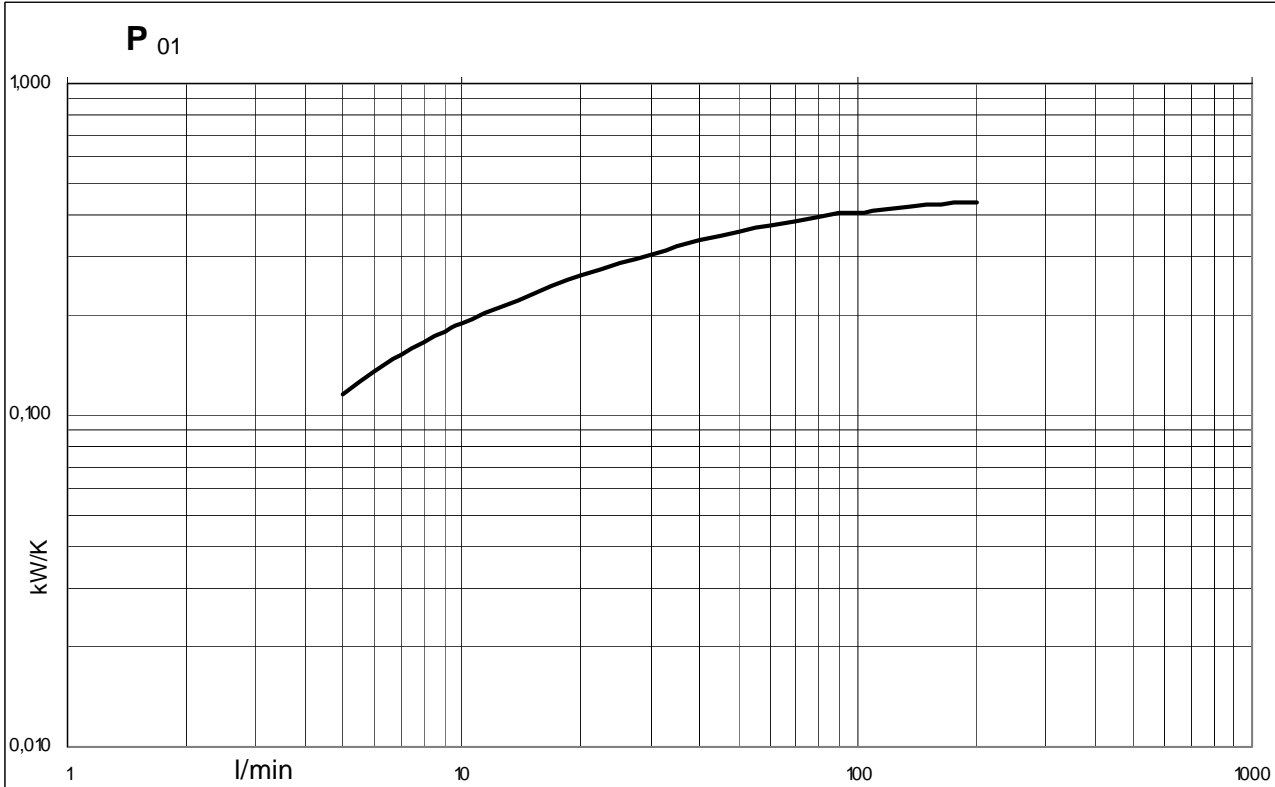


Technical
Data

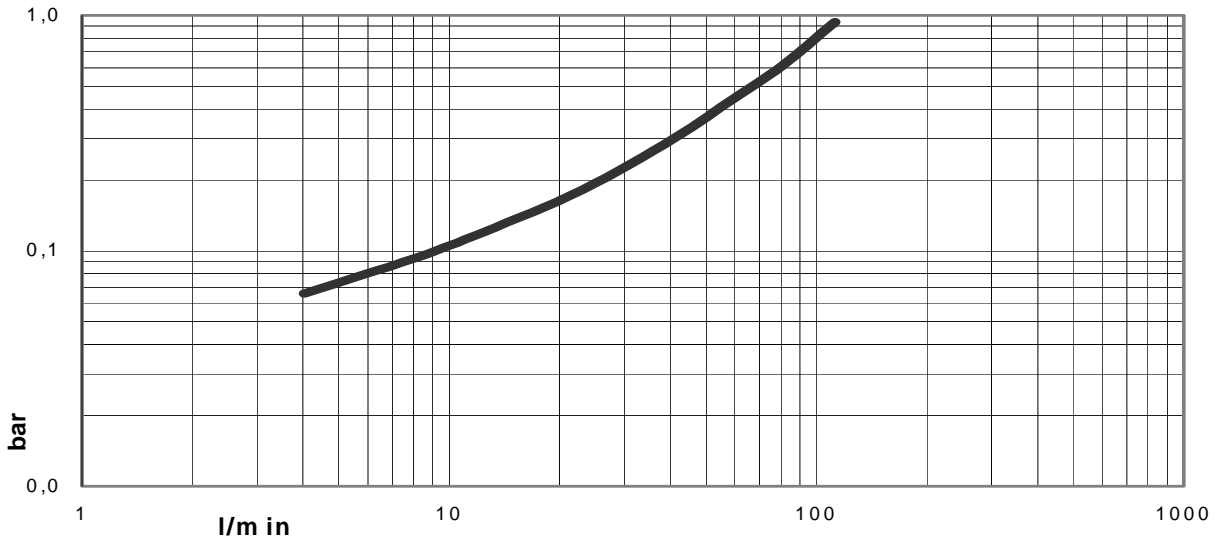
Oil / Air Cooling Unit
Type 3.04.xx.GS



Application	Cooling of: Oil, HFA, HFB, HFC, HFD – Liquids up to $v = 100 \times 10^{-6} \text{ m}^2/\text{s}$ water/glycol 65:35, <u>By no means water</u> without anticorrosive agent Cooling medium: air			
Technical Data	Type	3.04.1x. 12V=	3.04.1x. 24V=	
	Frontal area	m ²	0,209	
	Fan speed	1/min	2818	
	Air-flow rate	Kg/s	~ 1,06	
	Driving power	kW	0,24	
	Electric motor, size		ø 385	
	Noise level (1m / 7m)	dB(A)	80 / 70	
	Weight	kg	29	
	Oil content	L	4	
	Allow. operating temp.	°C	120	
Allow. operating pressure	bar	16		
Material	Core	aluminium	aluminium	
	Fan	plastic	plastic	
	Miscellaneous	steel, treated	steel, treated	
Fitting note	Operating instruction to be followed in any case			
Example		Given	Calculated	
	Power dissipation	kW	$P_v = 15$	
	Oil flow	l/min	$V_{\dot{O}l} = 50$	
	Air volume	kg/s	$V_L = 1,06 \text{ (m.a.)}$	
	Oil inlet temperature	°C	$t_{\dot{O}le} = 65$	
	Cooling air temperature	°C	$t_{Le} = 22$	
	Inlet temperature-- difference, ETD	K		$ETD = t_{\dot{O}le} - t_{Le}$ $= 65 - 22 = 43 \text{ K}$
	Spec.heat dissipation at = 1 Kelvin, P_{01}	kW/K	$P_{01, \text{vorh. (60l/min)}} = 0,36$	$P_{01} = P_v / ETD$ $= 15 / 43 = 0,35 \text{ kW/K}$
	Cooling of oil $\Delta t_{\dot{O}l}$	K		$\Delta t_{\dot{O}l} = 36 \times P_v / V_{\dot{O}l}$ $= 36 \times 15 / 40 = 13,5 \text{ K}$
Heating-up of air Δt_L	K		$\Delta t_L = P_v / V_L$ $= 15 / 1,06 = 14,2 \text{ K}$	



Δp - Pressure drop



Δp-values of this chart apply to $\nu = 32 \text{ mm}^2/\text{s}$ (~ 32 cSt)

In case of divergent viscosity the calculated Δp-value shall be multiplied by f

10	15	20	32	40	50	60	80	100	150	200	250	300	400	500	mm ² /s
0,5	0,65	0,75	1,0	1,2	1,4	1,6	2,1	2,7	4,0	5,5	7,3	9,5	16,0	30,0	f