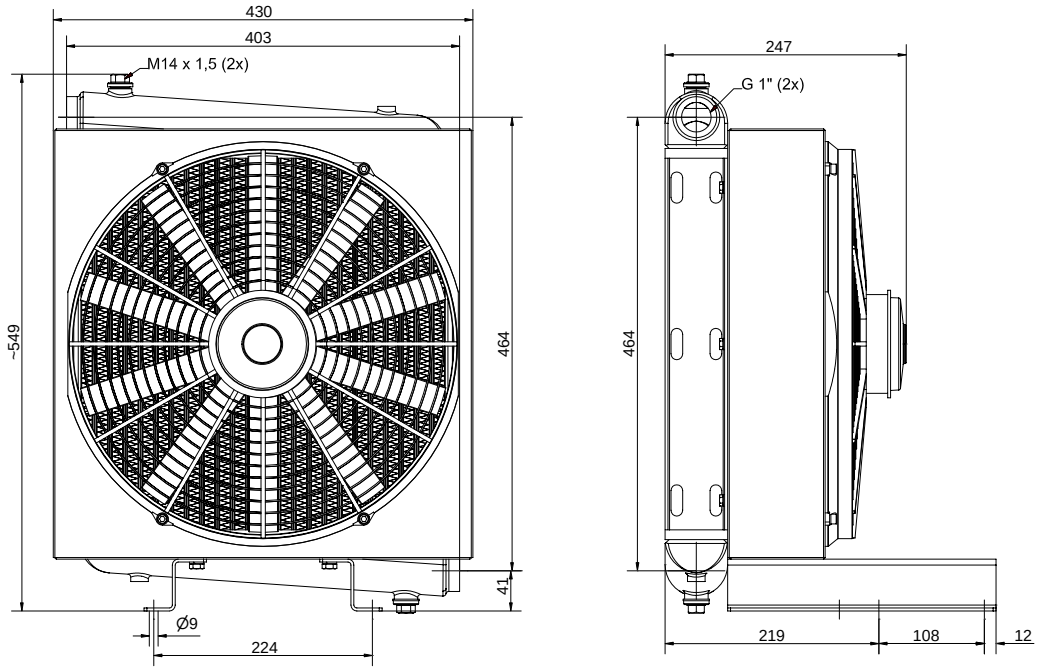
Technical Data	Oil / Air Cooling Unit Type 3.03.xx.GS	FUNKE



Application	Cooling of: Oil, HFA, HFB, HFC, HFD – liquids up to $\nu = 100 \times 10^{-6}$ m²/s water/glycol 65:35, By no means water without anticorrosive agent Cooling medium: air				
Technical Data	Type		3.03.1x.12V=	3.03.1x.24V=	
	Frontal area	m²	0,150	0,150	
	Fan speed	1/min	2819	2819	
	Air-flow rate	Kg/s	~ 1,06	~ 1,06	
	Driving power	kW	0,24	0,24	
	Electric motor, size		ø 385	ø 385	
	Noise level (1m / 7m)	dB(A)	81 / 71	81 / 71	
	Weight	kg	23	23	
	Oil content	L	3	3	
	Allow. operating temp.	°C	120	120	
	Allow. operating pressure	bar	16	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 = 12	
	Oil flow	l/min	$V_{Öl}$ = 40	
	Air volume	kg/s	V_L = 1,06 (m.a.)	
	Oil inlet temperature	°C	$t_{Öle}$ = 62	
	Cooling air temperature	°C	t_{Le} = 19	
	Inlet temperature-difference, ETD	K		ETD = $t_{Öle} - t_{Le}$ = 62 – 19 = 43 K
	Spec. heat dissipation ETD = 1 Kelvin, P_{01}	kW/K	$P_{01, vorh. (40l/min)}$ = 0,29	P_{01} = P_v / ETD = 12 / 43 = 0,28 kW/K
	Cooling of oil $\Delta t_{Öl}$	K		$\Delta t_{Öl}$ = 36 x P_v / $V_{Öl}$ = 36 x 12 / 40 = 10,8 K
	Heating-up of air Δt_L	K		Δt_L = P_v / V_L = 12 / 1,06 = 11,3 K

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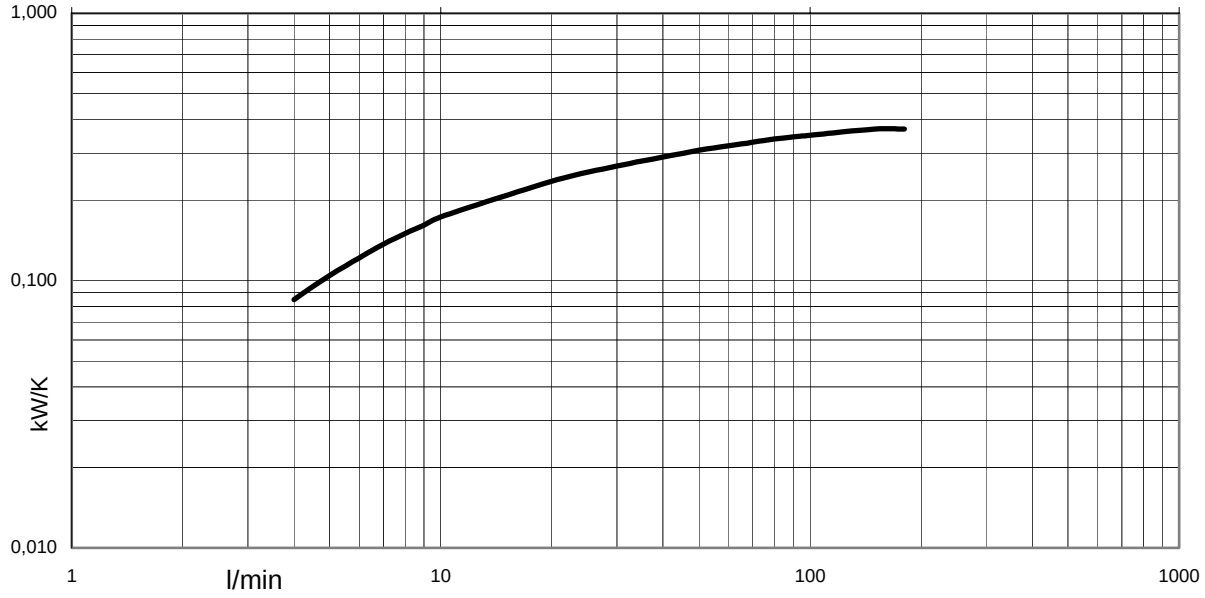
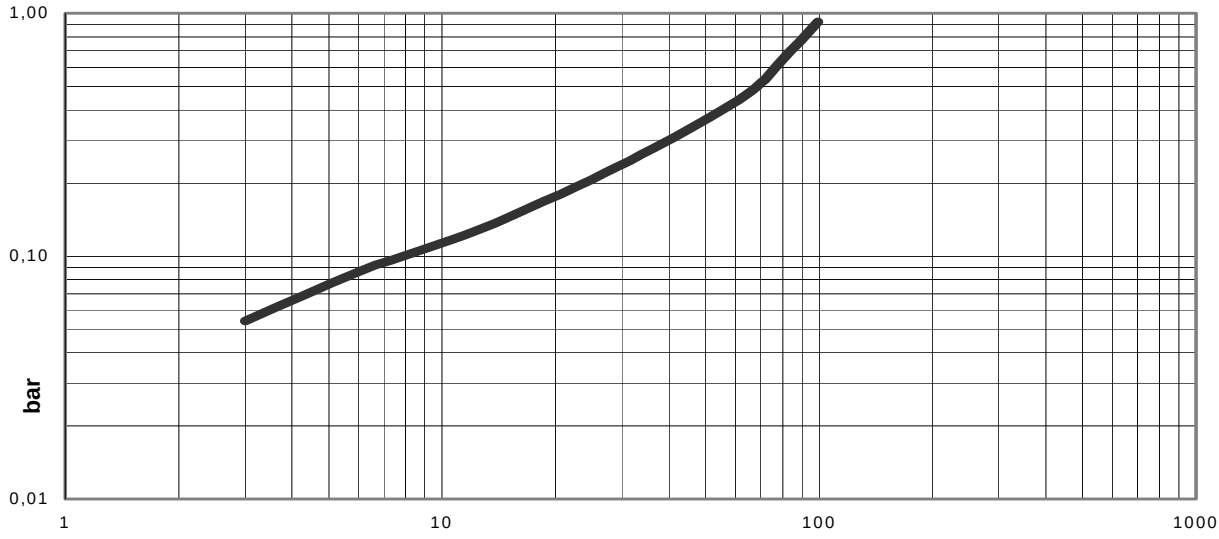


Δp - Pressure drop



Δp-values of this chart apply to ν = 32 mm²/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	mm²/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