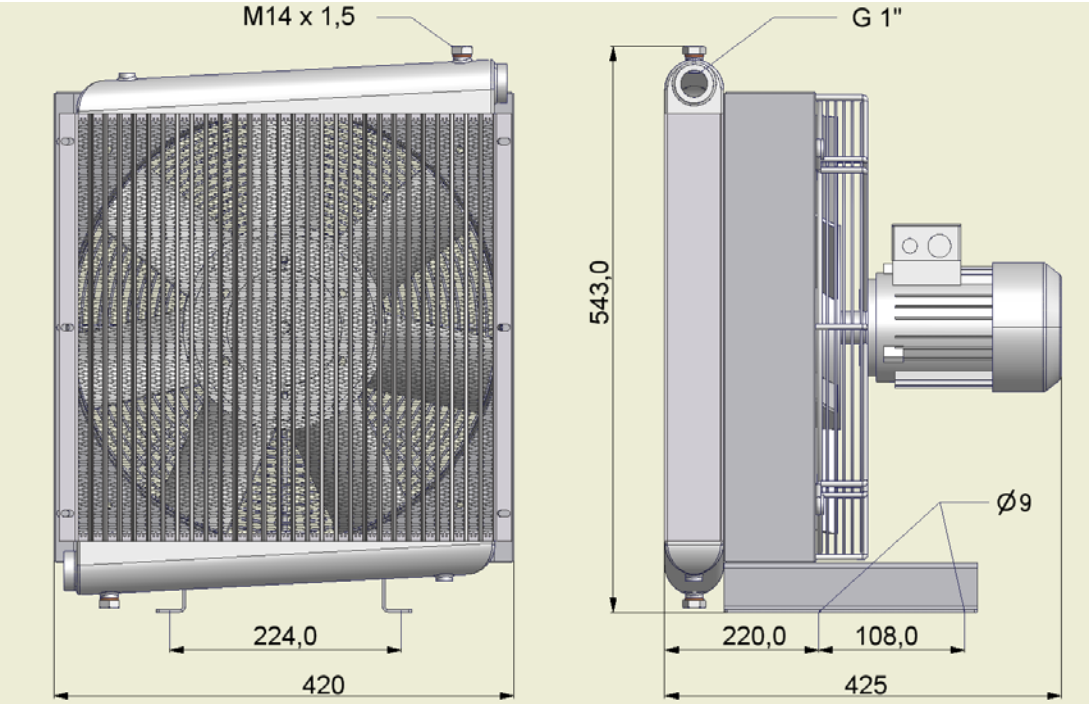
Technical Data	Oil / Air Cooling Unit Type 3.03.xx.xx	FUNKE



Application	Cooling of: Oil, HFA, HFB, HFC, HFD – Liquids up to ν = 100 x 10^{-6} m^2/s water/glycol 65:35, By no means water without anticorrosive agent Cooling medium air				
Technical Data	Type		3.03.1x.81	3.03.1x.51	3.03.1x.31
	Frontal area	m²	0,150	0,150	0,150
	Fan speed	1/min	3000	1500	1000
	Air-flow rate	Kg/s	~ 0,84	~ 0,42	~ 0,28
	Driving power	kW	0,55	0,37	0,25
	Electric motor, size		IM B14 C105-71	IM B14 C105-71	IM B14 C105-71
	Noise level (1m / 7m)	dB(A)	87 / 74	72 / 58	62 / 48
	Weight	kg	25	25	25
	Oil content	L	3	3	3
	Allow.operating temp.	°C	120	120	120
	Allow.operating pressure	bar	16	16	16
Material	Core		aluminium	aluminium	aluminium
	Fan		plastic	plastic	plastic
	Miscellaneous		steel, treated	steel, treated	steel, treated
Fitting note	Operating instruction to be followed in any case				

			Given	Calculated
Example	Power dissipation	kW	P_v = 12	
	Oil flow	l/min	$V_{Öl}$ = 40	
	Air volume	kg/s	V_L = 0,84 (m.a.)	
	Oil inlet temperature	°C	$t_{Öle}$ = 60	
	Cooling air temperature	°C	t_{Le} = 20	
	Inlet temperature-difference ETD	K		ETD = $t_{Öle} - t_{Le}$ = 60 – 20 = 40 K
	Spec. heat dissipation at ETD = 1 Kelvin, P_{01}	kW/K		P_{01} = P_v / ETD = 12 / 40 = 0,30 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 / 0,84 = 14,0 K

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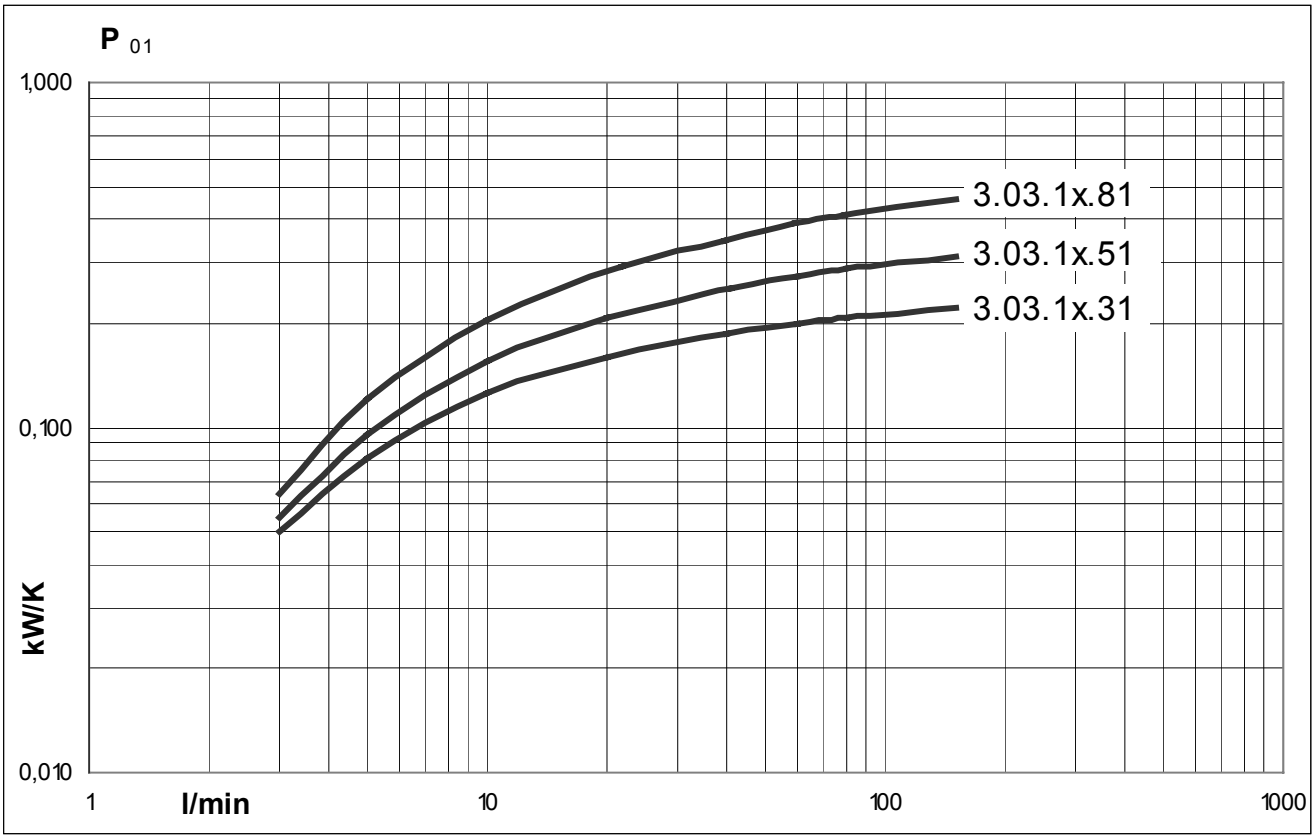

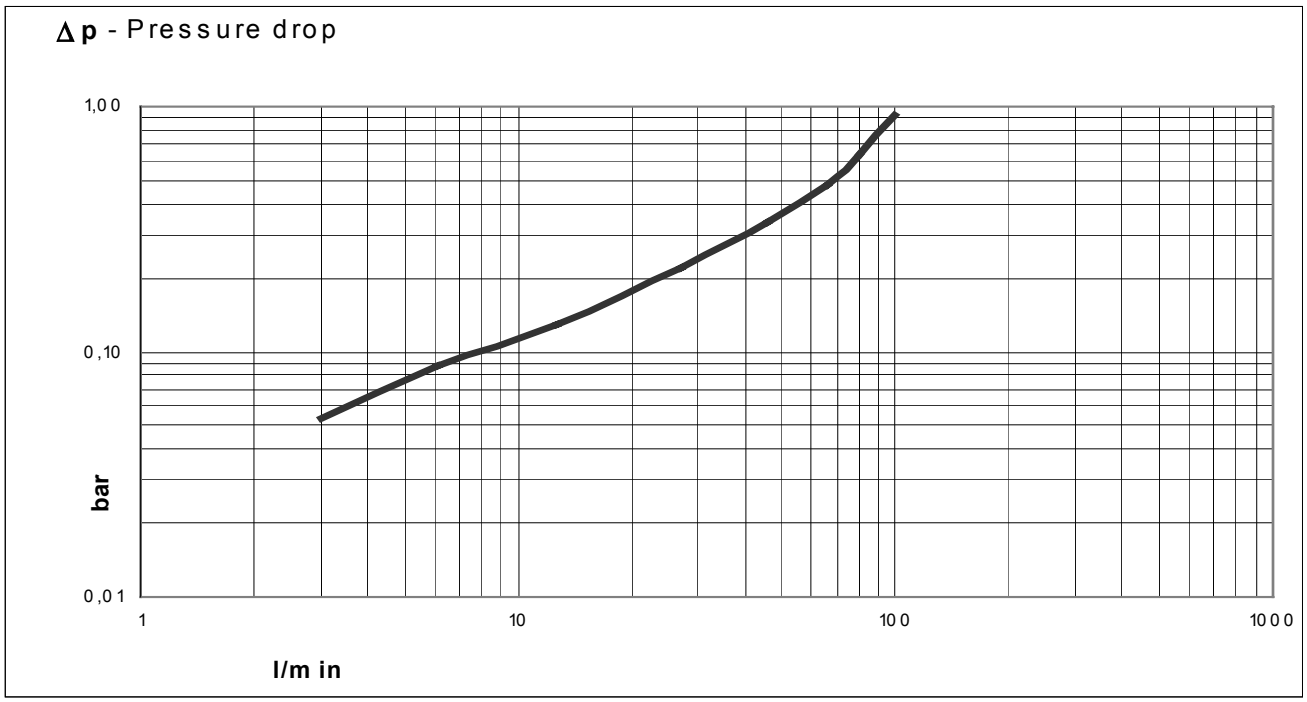

Δp-values of this chart apply to ν = 32 mm²/s (~ 32 cSt)
In case of divergent viscosity the calculated Δp-value shall be multiplied by f

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