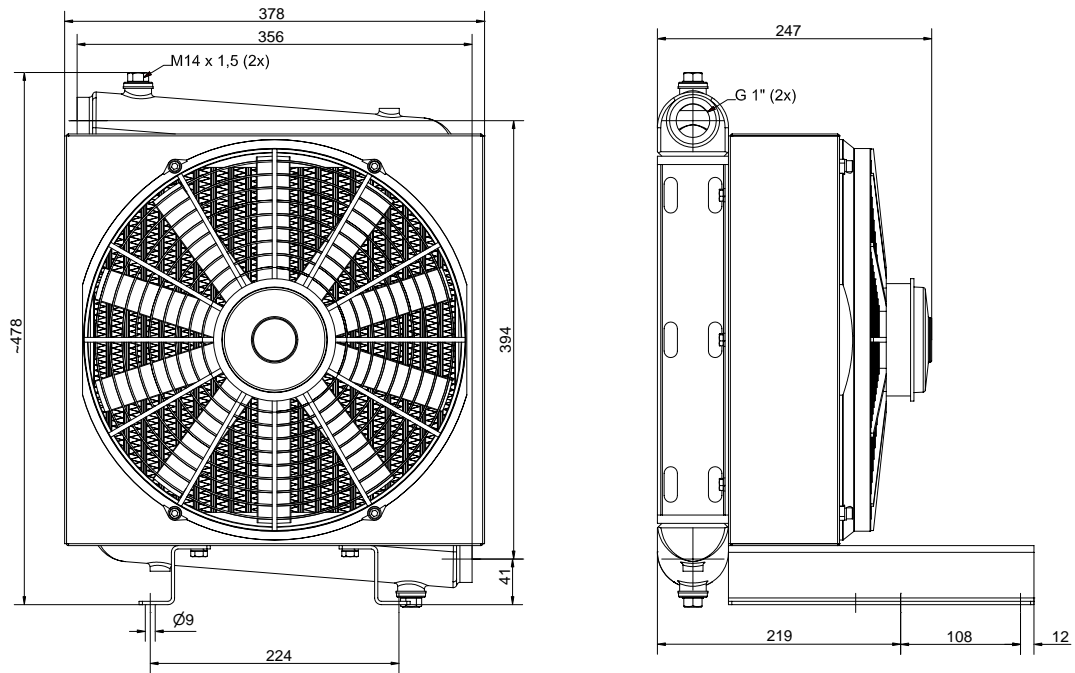
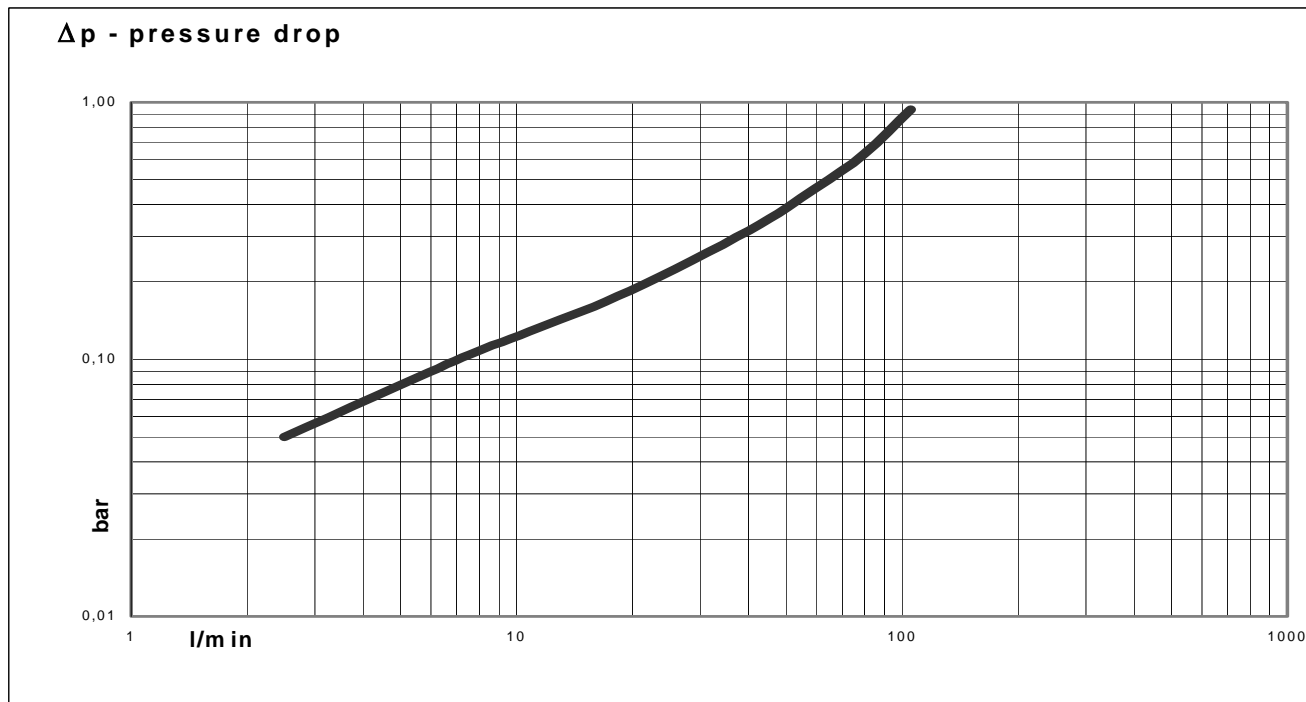
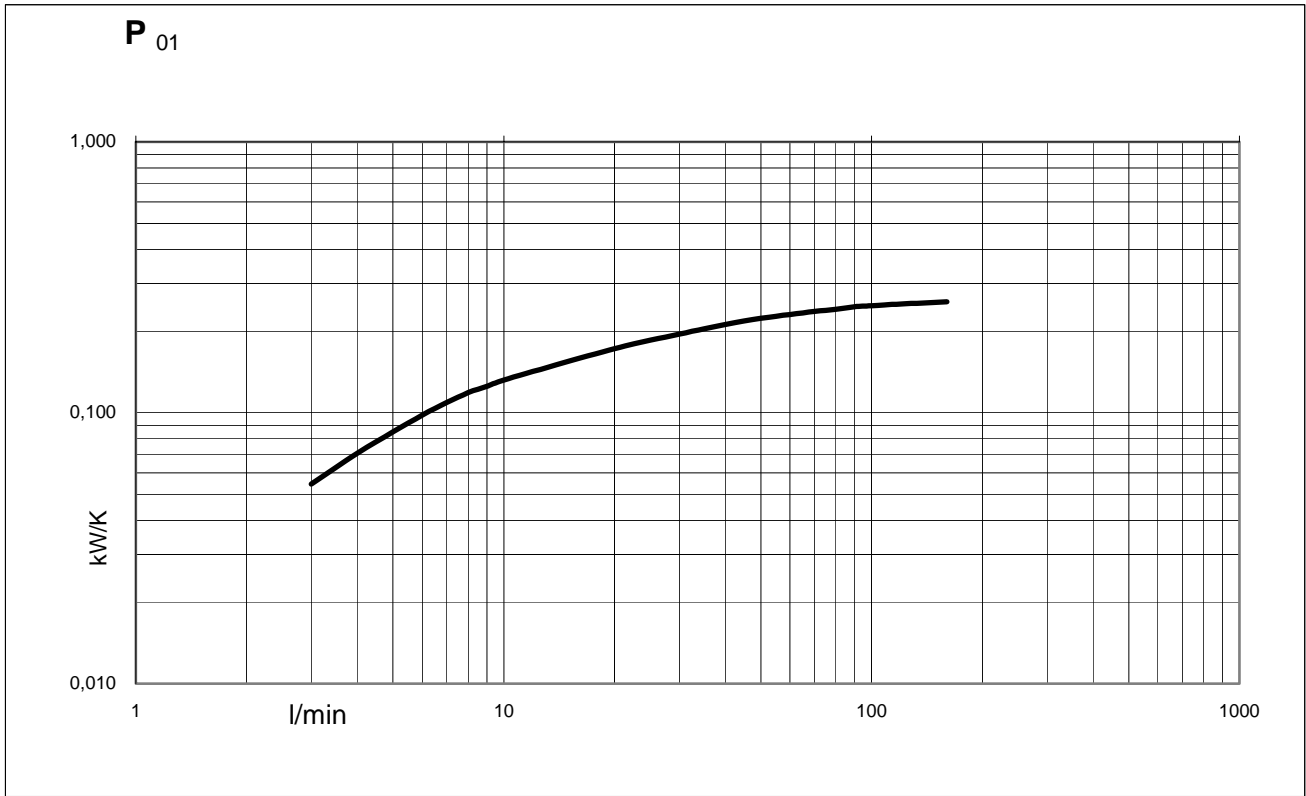


Technical  
Data

Oil / Air Cooling Unit  
Type 3.02.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	3.02.1x.12V=	3.02.1x. 24V=	
	Frontal area	m <sup>2</sup>	0,110	0,110
	Fan speed	1/min	2741	2741
	Air-flow rate	Kg/s	~ 0,48	~ 0,48
	Driving power	kW	0,11	0,11
	Electric motor, size		ø 330	ø 330
	Noise level (1m / 7m)	dB(A)	80 / 70	80 / 70
	Weight	kg	20	20
	Oil content	L	2,5	2,5
	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	$P_v = 9$	
	Oil flow	l/min	$V_{\dot{o}l} = 70$	
	Air volume	kg/s	$V_L = 0,48 \text{ (m.a.)}$	
	Oil inlet temperature	°C	$t_{\dot{o}le} = 60$	
	Cooling air temperature	°C	$t_{Le} = 20$	
	Inlet temperature-difference, ETD	K		$ETD = t_{\dot{o}le} - t_{Le} = 60 - 20 = 40 \text{ K}$
	Spec. heat dissipation at ETD = 1 Kelvin, $P_{01}$	kW/K	$P_{01, \text{vorh. (70l/min)}} = 0,23$	$P_{01} = P_v / ETD = 9 / 40 = 0,23 \text{ kW/K}$
	Cooling of oil, $\Delta t_{\dot{o}l}$	K		$\Delta t_{\dot{o}l} = 36 \times P_v / V_{\dot{o}l} = 36 \times 9 / 45 = 7,20 \text{ K}$
Heating-up of air, $\Delta t_L$	K		$\Delta t_L = P_v / V_L = 9 / 0,48 = 18,8 \text{ K}$	



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

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

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