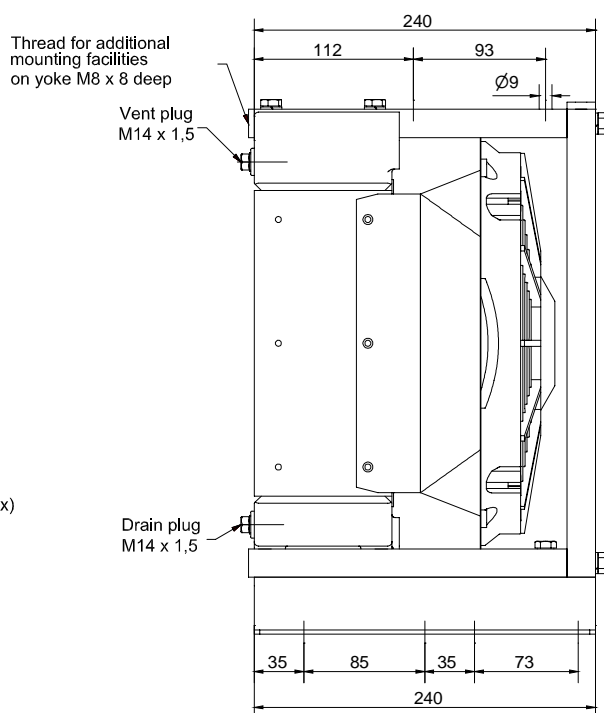
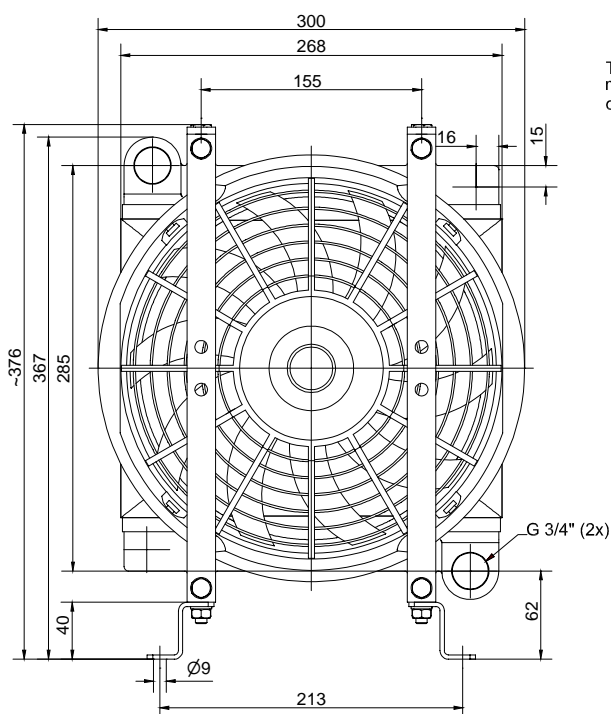


Technical data	Oil / Air Cooling Unit 2.7802.2.□□ - 75.□□.□□ direct-current fan	Size 02 DC
		Issue 2008



At surface temperatures of more than 80°C, protection against accidental contact should be guaranteed in the working area

Details are subject to modification without notice!

Application	Cooling of oil, HFA,HFB, HFC, HFD - fluids up to $v \approx 100 \cdot 10^{-6} \text{ m}^2/\text{s}$ ($\hat{=} 100 \text{ cSt}$), Water/Glycol 65:35, no water without corrosion preventive (min. 2 %). Cooling medium: Air		
Technical data	Type	2.7802.2.□□.-	75.□□
	Face area	m ²	0,05
	Fan speed	1/min	2600
	Fan load	kW	0,1
	Air flow	kg/s	0,23
	Noise level 1m/7m from 63 Hz to 8000 Hz	dB(A)	68 / 56
	Motor power	kW	0,1
	Motor frame size		
	Total weight with motor	kg	13
Weight without motor	kg	11,7	
Oil content	l	1,6	
max. working pressure	16 bar		
Max. working temp.	Oil and hydraulic fluids 120 °C, water/glycol, emulsion 90 °C		
Material	Cooler: Aluminium Fan: Plastic	Fan shroud: Plastic Other parts: Steel (zinc plated)	
Installation instruction	Refer to: Type sheet, operation instructions Ensure there is an unhindered flow of air to and from the cooler. Provide ventilation and exhaust in room where cooler is installed. Avoid a pulsating oil flow and pressure surges.		
Type key	<div style="display: flex; justify-content: center; gap: 10px;"> 2 . 7 8 0 2 . 2 . - 7 5 . </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 60%;"> <p>Size of unit</p> <p>Number of passes (normal: 1, for low oil flows: 3)</p> <p>Position of oil connections, direction of air flow, finish</p> </div> <div style="width: 35%;"> <p>Variant (key number)</p> <p>Type of fan drive and Fan speed</p> </div> </div>		
Accessories	Filter mats for oil / air coolers Temperature regulator for tank installation		
Performance	see overleaf		

Size 02 DC

Oil / Air Cooling Unit
2.7802.2.□□ - 75.□□.□□
direct-current fan

Performance

Introduction

Following data are known:

Dissipation loss P_V [kW]
 Oil flow \dot{V}_{Oil} [l/min]
 Max. perm. oil temperature t_{OIE} [°C]
 Cooling air temperature t_{LE} [°C]

From the following can be calculated:

Entry - Temperature - Difference
 $ETD = t_{OIE} - t_{LE}$ [K]
 Specific cooling capacity with ETD = 1 K
 $P_{01} = \frac{P_V}{ETD}$ [kW/K]

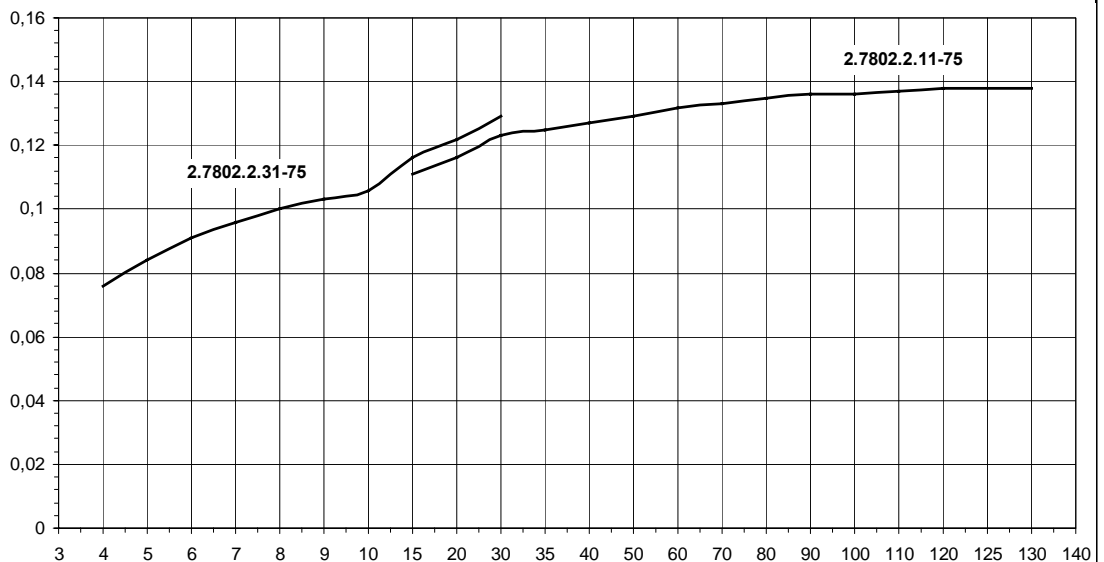
In hydraulic systems, the dissipation loss is approximately 20 – 25 % of drive power.

Performance diagrams

Example:
Given: $P_V = 6$ kW; $\dot{V}_{Oil} = 20$ l/min; $t_{OIE} = 90$ °C; $t_{LE} = 30$ °C
 $ETD = 90 - 30 = 60$ K; $P_{01} = \frac{6}{60} = 0,1$ kW/K
Selection: 2.7802.2.11-75.
 $P_{01} = 0,11$ kW/K; $P_V = ETD \cdot 0,11 = 6,6$ kW
 $\Delta t_{O1} = \frac{36 \cdot 6,6}{20} = 11,9$ K; $\Delta t_L = \frac{6,6}{0,23} = 28,7$ K

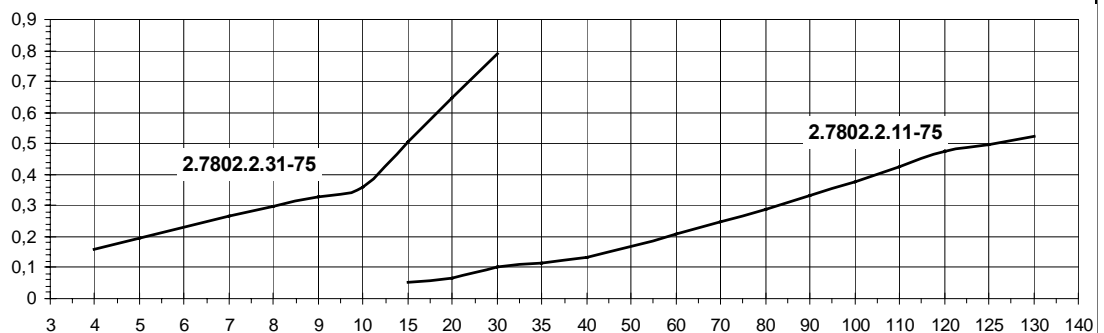
Δt_{O1} = Oil cooling
 Δt_L = Air heating
 G_L = Air flow
 $\Delta t_{O1} = \frac{36 \cdot P_V}{\dot{V}_{O1}}$ [K]
 $\Delta t_L = \frac{P_V}{G_L}$ [K]

P_{01} [kW/K]



Δp_{O1} [bar]

V_{O1} [l/min]



Δp_{O1} - Correction

The Δp -value obtained from the curves applies for $\nu = 32$ mm²/s ($\hat{=}$ 32 cSt).
 For differing viscosities, the Δp -value has to be multiplied by the factor 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	5,5	7,3	9,5	16	30	f