

Technical data		Oil / Air Cooling Unit 2.7804.2.□□ - □□.□□			Size 04 AC Issue 2000	
<p>SAE - J 518 c Counter flange 2. 1 □ - S 25 x G 1 2. 3 □ - S 25 x G 1/2</p> <p>Overall width 348</p> <p>Thread for additional mounting facilities on yoke M8 x 8 deep</p> <p>Vent plug M 14 x 1.5</p> <p>Drain plug M 14 x 1.5</p> <p>Air →</p> <p>ca. 506</p> <p>459</p> <p>476.5</p> <p>Height 315</p> <p>Width 320.75</p> <p>269.5</p> <p>62.5</p> <p>40</p> <p>268</p> <p>326</p> <p>166</p> <p>16</p> <p>15</p> <p>40</p> <p>3</p> <p>25</p> <p>224</p> <p>242</p> <p>112</p> <p>93</p> <p>102</p> <p>φ 9</p> <p>Depth 97</p> <p>φ 305</p> <p>20</p> <p>50</p> <p>~8</p> <p>φ 9</p> <p>108</p> <p>12</p> <p>~453 depending on make of motor</p> <p>~470 Explosion proof motors</p> <p>X ≥ 130 mm</p> <p>X</p> <p>At surface temperatures of more than 80°C, protection against accidental contact should be guaranteed in the working area</p> <p>Details are subject to modification without notice!</p>						
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 2.7804.2.□□ -	81.□□	51.□□	31.□□		
	Face area m^2	0,1	0,1	0,1		
	Fan speed 1/min	3000	1500	1000		
	Fan load kW	0,45	0,1	0,06		
	Air flow kg/s	0,7	0,3	0,2		
	Noise level 1m/7m from 63 Hz to 8000 Hz dB(A)	84 / 72	70 / 58	59 / 47		
	Motor power kW	0,55	0,37	0,25		
	Motor frame size	IM B14 C105 - 71	IM B14 C105 - 71	IM B14 C105 - 71		
	Total weight with motor kg	24,6	24	24,3		
	Weight without motor kg	18	18	18		
	Oil content l	3	3	3		
Max. working pressure Max. working temp.	16 bar Oil and hydraulic fluids 120 °C, water/glycol, emulsion 90 °C With explosion-proofed motor oil 100 °C, hydraulic fluids 90 °C					
Material	Cooler: Aluminium Fan shroud: Plastic; with explosion-proof motor: Steel Fan: 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="text-align: center;"> 2 . 7 8 0 4 . 2 . □□ - □□ . □□ </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;"> <p>Size of unit</p> <p>Number of passes (normal: 1, for low oil flows:</p> <p>Position of oil connections, direction of air flow,</p> </div> <div style="width: 45%;"> <p>Variant (key number)</p> <p>Type of fan drive and fan speed</p> </div> </div>					
Accessories	in price	2 SAE – counter flange with gaskets and screws				
	charged extra	Filter mats for oil / air coolers Temperature regulator for tank installation				
Performance	see overleaf					

Introduction

Following data are known:

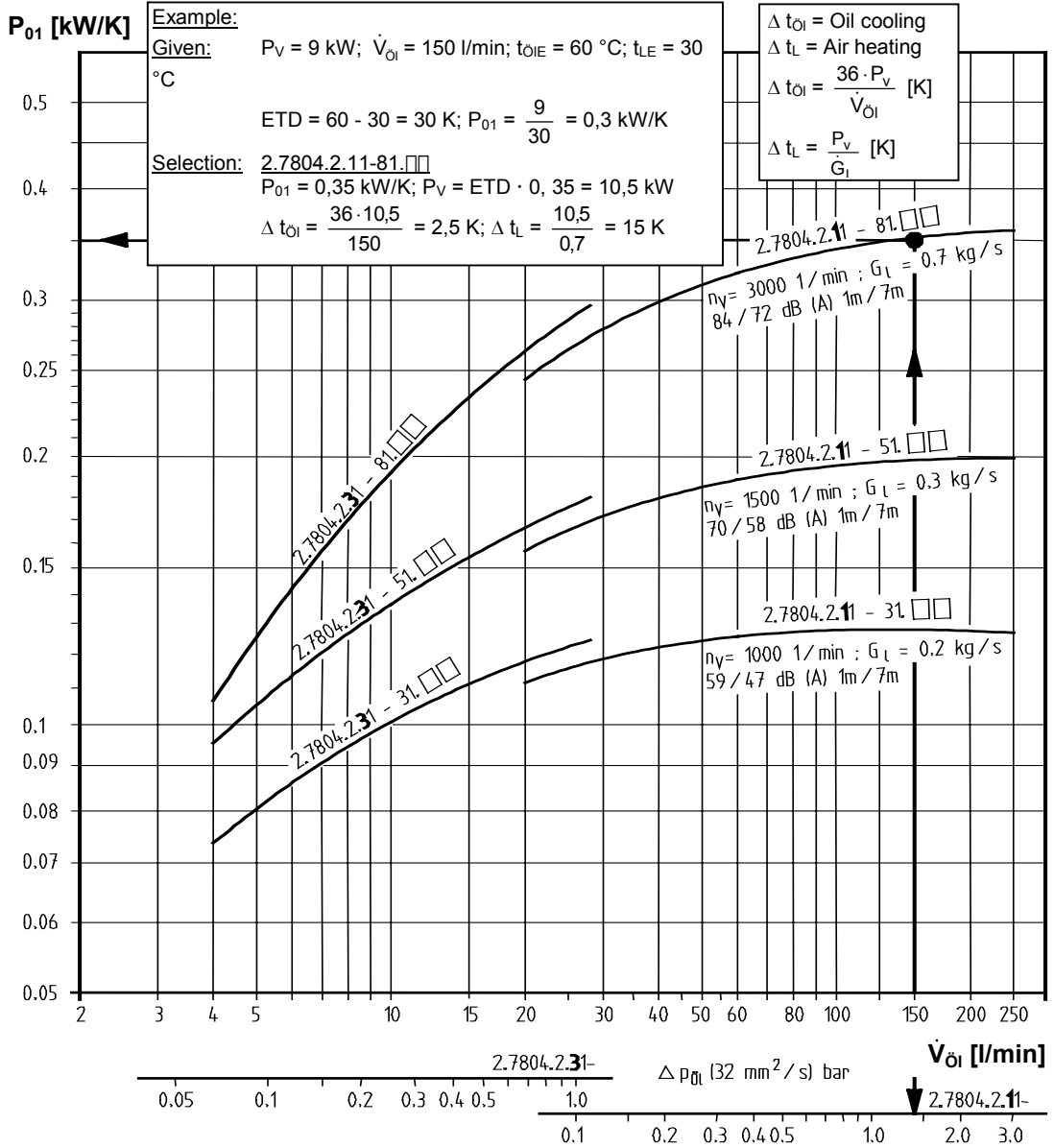
Dissipation loss P_V [kW]
 Oil flow \dot{V}_{Oil} [l/min]
 Max. perm. oil temperature t_{OIE} [°C]
 Cooling air temperature t_{LE} [°C]

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



Δp_{01} - 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