



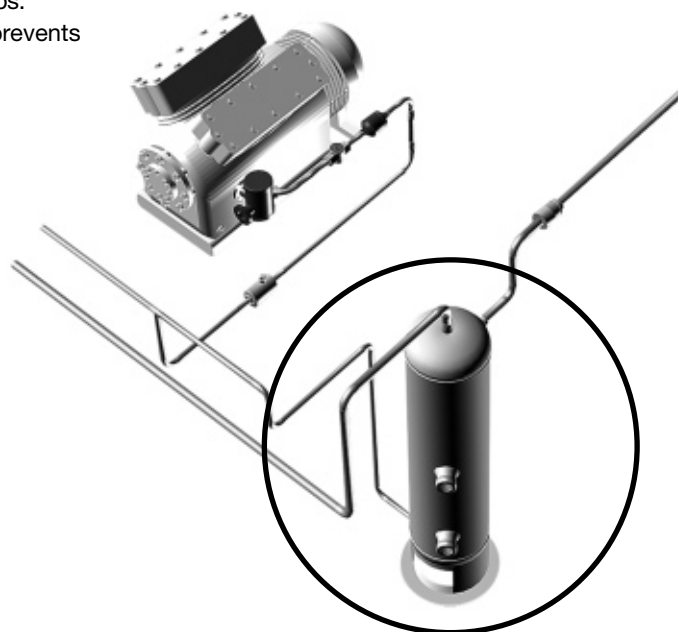
Oil separator receivers

→ TURBOIL-R® (welded)

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■ Applications

- Separation and recovery of the oil carried by the refrigerant in vapour phase at the outlet of compressors, in refrigerating and air conditioning installations.
- The TURBOIL-R® oil separator receivers limit the amount of oil within the circuit, thus allowing increasing the heat exchangers' performances and preventing blocking the pressure relief valves, as well as exceptional wear of compressors by lack of oil.
- They ensure a regulated oil return to the compressor sumps.
- The selection of TURBOIL-R® oil separator receivers prevents having to install a separate oil receiver.



■ Functional features

- Products are compatible with HFCs, HCFCs, CFCs, CO₂ (R744) as well as with their associated oils and additives. Products are designed for use of non-hazardous refrigerants from group 2 of PED 97/23/EC.
- Product classification in CE categories is performed using the PED 97/23/EC table, corresponding to a volume-based selection.
- The oil separator receivers are entirely made of steel.
- The oil reserve function is ensured by a built-in receiver.
- High pressure oil outlet by a 3/8" SAE Rotalock stop valve.
- The TURBOIL-R® are fitted without an internal oil regulation set (float, valve, and needle).

■ CARLY advantages

- Very important simplification and cost reduction compared with a traditional oil system:
 - drastic reduction of piping lengths and number of components
 - important reduction of mounting time
 - limitation of machine footprint
 - suppression of the differential valve joining the oil receiver and the suction line
 - limitation of the risk of leak thanks to the simplification of the oil return system.
- Fitted with the efficient TURBOIL® oil separation system.
- Presence of two sight glasses with colour balls on the receiver part, for a better reading of the oil level.
- Very large range.
- Specific products on request (sizes, connections, volume of oil receiver ...).
- GOST certified products.



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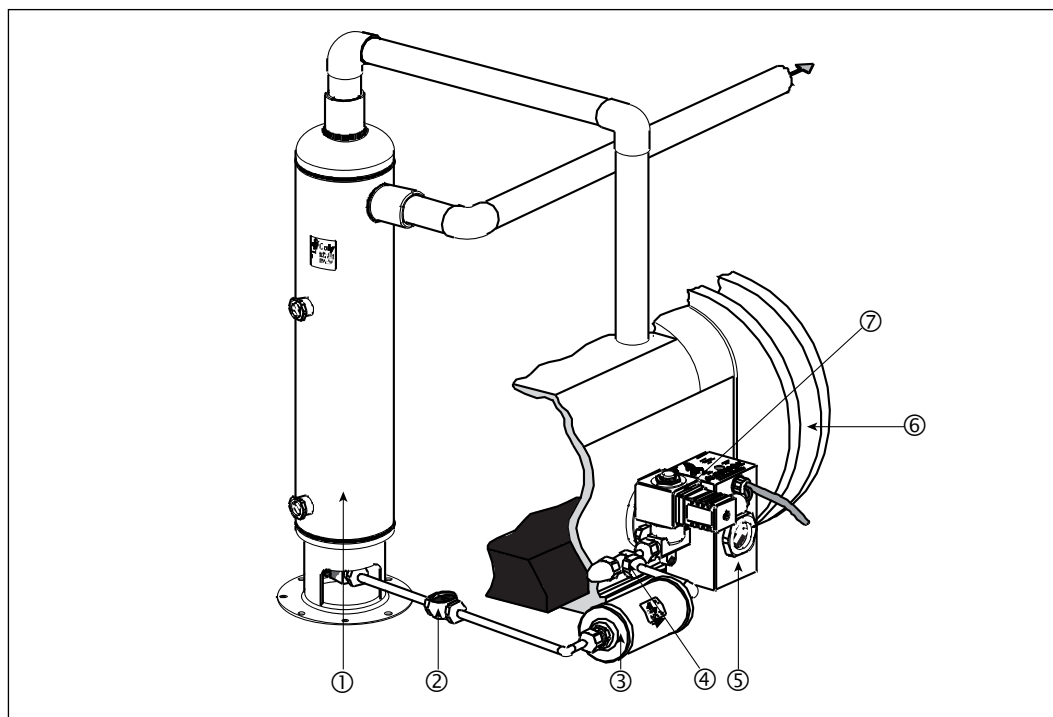
■ Recommendations

- * The recommendations are identical to those listed for the TURBOIL® oil separators (refer to chapter 41.2).
- * The oil return is likely to take place at a pressure close to condensation pressure, therefore the use of a CARLY ELECTROIL electronic oil level regulator is imperative (refer to chapter 50).
- * Considering the high oil pressure at the outlet of the TURBOIL-R®, the use of HCYN oil level regulators is impossible.
- * In the case of multi-compressor installations, CARLY recommends the use of a TURBOIL-R® oil separator receiver for each compressor.
- * Make sure that the TURBOIL-R® oil separator connection diameter is at least equal to the discharge line diameter.
- * Upon commissioning of a new installation, fill the TURBOIL-R® receiver part with an oil identical to that used in the compressors,

- up to half the upper sight glass, corresponding to the volume of oil V2 in the technical features table (refer to page 42.4).
- * During the first two days of operation of the installation, carefully monitor the oil level in the separator receivers and keep it at half the higher sight glass. **Then, no extra oil shall be added, as long as the level does not go below half the lower sight glass.**
- * In the case of an installation that is already operating, the oil should be added very carefully. Reintegration of the oil distributed until then in the installation must, after a first day of operation, be sufficient to fill the receiver part of the TURBOIL-R® and reach the upper sight glass. If the oil level has not reached the upper sight glass, then the necessary amount of oil should be added. But, if the oil level is higher than the upper sight glass, it is imperative to empty the

surplus; this operation is possible via the lower valve of the TURBOIL-R®.

- * Systematically use an oil identical to that in the compressor.
- * The O-ring should be replaced after each removal of the sight glass; screw it back complying with the recommended 25 N.m tightening torque.
- * General assembly precautions: refer to chapter 115.



- “ TURBOIL-R® oil separator receiver
- ≠ HCYVP oil sight glass
- Æ HYDROIL filter drier for POE oil
- ∅ HCVI shut-off valve
- ∞ ELECTROIL electronic oil level regulator
- ± Compressor
- ≤ Solenoid valve



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■ Selection table

CARLY references	Connections To solder ODF inch	CARLY references	Connections To solder ODF mm	Refrigerating capacity (kW) ⁽¹⁾														
				R22			R134a			R404A R507			R407C R410A			R 744 ⁽²⁾		
				- 40°C	- 10°C	+ 5°C	- 40°C	- 10°C	+ 5°C	- 40°C	- 10°C	+ 5°C	- 40°C	- 10°C	+ 5°C			
TURBOIL-R 22505 S/MMS	5/8	TURBOIL-R 22505 S/MMS	16	17	22	24	12	15	17	17	22	25	16	21	24	22		
TURBOIL-R 23007 S	7/8	TURBOIL-R 23007 MMS	22	24	27	30	18	23	25	26	30	32	25	28	30	43		
TURBOIL-R 23009 S	1 1/8	TURBOIL-R 23009 MMS	28	28	32	36	19	25	28	29	36	40	27	34	38	55		
TURBOIL-R 23011 S/MMS	1 3/8	TURBOIL-R 23011 S/MMS	35	32	40	45	21	27	31	32	40	47	30	38	45	/		
TURBOIL-R 47009 S	1 1/8	TURBOIL-R 47009 MMS	28	42	50	55	34	37	42	42	54	60	41	48	54	55		
TURBOIL-R 47011 S/MMS	1 3/8	TURBOIL-R 47011 S/MMS	35	48	55	60	38	46	50	48	60	70	46	57	66	85		
TURBOIL-R 48013 S	1 5/8	TURBOIL-R 48013 MMS	42	65	80	90	45	60	70	65	85	94	62	81	89	120		
TURBOIL-R 49017 S/MMS	2 1/8	TURBOIL-R 49017 S/MMS	54	85	100	110	58	70	80	87	105	120	83	100	114	/		
TURBOIL-R 77011 S/MMS	1 3/8	TURBOIL-R 77011 S/MMS	35	48	55	60	38	46	50	48	60	70	46	57	66	85		
TURBOIL-R 78013 S	1 5/8	TURBOIL-R 78013 MMS	42	65	80	90	45	60	70	65	85	94	62	81	89	120		
TURBOIL-R 79017 S/MMS	2 1/8	TURBOIL-R 79017 S/MMS	54	85	100	110	58	70	80	87	105	120	83	100	114	/		
TURBOIL-R 127011 S/MMS	1 3/8	TURBOIL-R 127011 S/MMS	35	48	55	60	38	46	50	48	60	70	46	57	66	85		
TURBOIL-R 128013 S	1 5/8	TURBOIL-R 128013 MMS	42	65	80	90	45	60	70	65	85	94	62	81	89	120		
TURBOIL-R 129017 S/MMS	2 1/8	TURBOIL-R 129017 S/MMS	54	85	100	110	58	70	80	87	105	120	83	100	114	/		
TURBOIL-R 815017 S/MMS	2 1/8	TURBOIL-R 815017 S/MMS	54	121	149	170	91	112	127	125	154	175	119	146	166	/		
TURBOIL-R 815021 S	2 5/8	TURBOIL-R 815021 MMS	67	138	170	194	104	128	146	142	175	200	135	166	190	/		
TURBOIL-R 830025 S	3 1/8	TURBOIL-R 830025 MMS	80	303	372	424	228	280	318	310	380	430	295	362	409	/		

⁽¹⁾ The indicated refrigerating capacities take into account a condensation temperature of + 38°C, a 5°C subcooling, and an aspirated gas temperature of + 18°C.

⁽²⁾ The indicated refrigerating capacities take into account a condensation temperature T_k of 0°C, an evaporating temperature T_0 of -40°C, a liquid subcooling of 2K and a suction gas temperature of -30°C.

Refer to selection example page 41.3.



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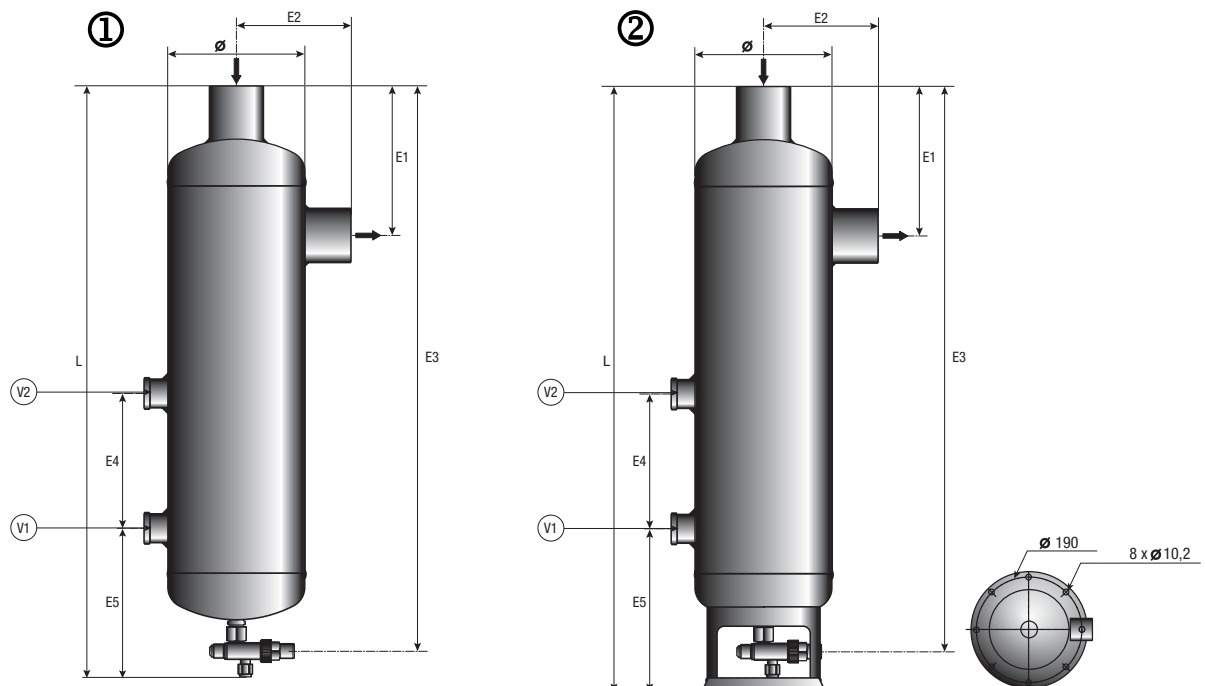
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■ Technical features

CARLY references	Connections types (1)	Volume of the receiver (L)	Volume (L)		Drawing No	Dimensions (mm)							Net weight (kg)
			V1	V2		∅	L1	E1	E2	E3	E4	E5	
TURBOIL-R 22505 S/MMS		2,3	0,45	2,00	1	108	567	82,0	73	537,0	207	137	7,50
TURBOIL-R 23007 S	TURBOIL-R 23007 MMS	2,3	0,45	2,00	1	108	576	96,0	83	546,0	207	137	7,60
TURBOIL-R 23009 S	TURBOIL-R 23009 MMS	2,5	0,45	2,00	1	108	641	106,0	80	611,0	207	137	8,00
TURBOIL-R 23011 S/MMS		2,5	0,45	2,00	1	108	650	115,5	90	620,5	207	137	8,10
TURBOIL-R 47009 S	TURBOIL-R 47009 MMS	4,3	1,41	3,83	2	155	571	144,0	113	531,0	150	182	10,60
TURBOIL-R 47011 S/MMS		4,3	1,41	3,83	2	155	580	153,0	114	533,4	150	182	10,80
TURBOIL-R 48013 S	TURBOIL-R 48013 MMS	4,3	1,41	3,83	2	155	660	153,0	114	620,0	150	182	14,20
TURBOIL-R 49017 S/MMS		4,3	1,41	3,83	2	155	673	166,0	128	626,5	150	182	14,25
TURBOIL-R 77011 S/MMS		7,7	1,41	6,98	2	155	779	153,0	114	732,4	345	182	13,70
TURBOIL-R 78013 S	TURBOIL-R 78013 MMS	7,7	1,41	6,98	2	155	856	153,0	114	809,0	345	182	16,80
TURBOIL-R 79017 S/MMS		7,7	1,41	6,98	2	155	869	166,0	128	822,5	345	182	16,85
TURBOIL-R 127011 S/MMS		12,7	1,41	11,91	2	155	1080	153,0	114	1033,5	650	182	18,35
TURBOIL-R 128013 S	TURBOIL-R 128013 MMS	12,7	1,41	11,91	2	155	1160	153,0	114	1113,0	650	182	21,55
TURBOIL-R 129017 S/MMS		12,7	1,41	11,91	2	155	1173	166,0	128	1126,5	650	182	21,60
TURBOIL-R 815017 S/MMS		8,0	3,10	6,25	2	219	675	191,0	170	627,0	90	198	23,65
TURBOIL-R 815021 S	TURBOIL-R 815021 MMS	8,0	3,10	6,25	2	219	688	212,0	184	642,0	90	198	24,35
TURBOIL-R 830025 S	TURBOIL-R 830025 MMS	8,0	3,10	6,25	2	219	703	226,6	184	657,0	90	198	25,45

(1) Chapter "Connection features and drawings" (refer to chapter 114).



V1 : Lower oil level sight glass
V2 : Upper oil level sight glass



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■ Technical features

CARLY references		Volume	Maximal working pressure	Working pressure (1)	Maximal working temperature	Minimal working temperature	Working temperature (1)	CE Category (2)
		V (L)	PS (bar)	PS BT (bar)	TS maxi (°C)	TS mini (°C)	TS BT (°C)	
TURBOIL-R 22505 S/MMS		3,45	43	10	120	-40	-20	I
TURBOIL-R 23007 S	TURBOIL-R 23007 MMS	3,45	43	10	120	-40	-20	I
TURBOIL-R 23009 S	TURBOIL-R 23009 MMS	3,90	43	10	120	-40	-20	I
TURBOIL-R 23011 S/MMS		3,90	43	10	120	-40	-20	I
TURBOIL-R 47009 S	TURBOIL-R 47009 MMS	7,20	43	10	120	-40	-20	II
TURBOIL-R 47011 S/MMS		7,15	43	10	120	-40	-20	II
TURBOIL-R 48013 S	TURBOIL-R 48013 MMS	8,50	43	10	120	-40	-20	II
TURBOIL-R 49017 S/MMS		8,50	43	10	120	-40	-20	II
TURBOIL-R 77011 S/MMS		10,50	43	10	120	-40	-20	II
TURBOIL-R 78013 S	TURBOIL-R 78013 MMS	11,80	43	10	120	-40	-20	II
TURBOIL-R 79017 S/MMS		11,80	43	10	120	-40	-20	II
TURBOIL-R 127011 S/MMS		15,50	43	10	120	-40	-20	II
TURBOIL-R 128013 S	TURBOIL-R 128013 MMS	16,85	43	10	120	-40	-20	II
TURBOIL-R 129017 S/MMS		16,85	43	10	120	-40	-20	II
TURBOIL-R 815017 S/MMS		17,50	33	10	120	-40	-20	II
TURBOIL-R 815021 S	TURBOIL-R 815021 MMS	17,60	33	10	120	-40	-20	II
TURBOIL-R 830025 S	TURBOIL-R 830025 MMS	17,70	33	10	120	-40	-20	II

(1) The working pressure is limited to the PS BT value when working temperature is lower than or equal to TS BT value.

(2) Classification by volume, according to PED 97/23/EC (refer to chapter 0 page 7).



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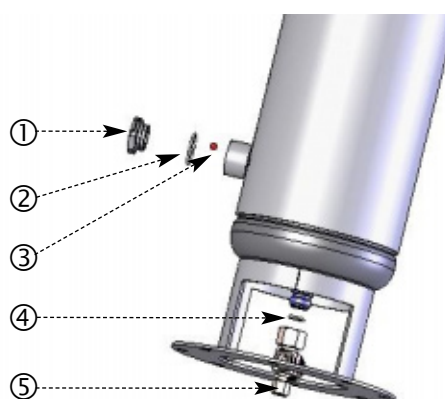
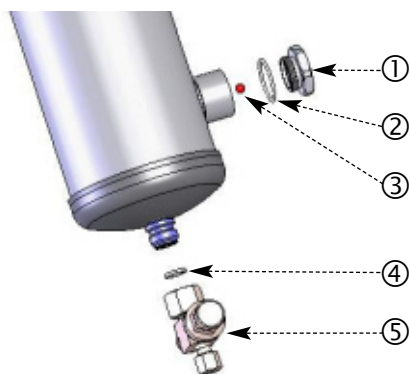
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■ Spare parts

CARLY references	Part Nb	Description	Quantity
CY 35012150	1	Glass without moisture indicator	1
CY 15552180	2	O-ring PTFE gasket for sight glass	1
CY 10501000	3	Colour ball for sight glass	1
CY 15580100	4	Gasket for 3/8" SAE Rotalock valve	1
CY 19700100	5	3/8" SAE Rotalock valve with gasket	1



■ Weights and packaging

CARLY references	Unit weight (kg)		Packaging unit	
	With packaging	Without packaging	standard	OEM'S
TURBOIL-R 22505 S/MMS	8,65	8,05	1	/
TURBOIL-R 23007 S & MMS	10,60	10,00	1	/
TURBOIL-R 23009 S & MMS	10,70	10,10	1	/
TURBOIL-R 23011 S/MMS	10,80	10,20	1	/
TURBOIL-R 47009 S & MMS	11,40	10,80	1	/
TURBOIL-R 47011 S/MMS	11,60	11,00	1	/
TURBOIL-R 48013 S & MMS	14,80	14,20	1	/
TURBOIL-R 49017 S/MMS	14,85	14,25	1	/

CARLY references	Unit weight (kg)		Packaging unit	
	With packaging	Without packaging	standard	OEM'S
TURBOIL-R 77011 S/MMS	17,30	16,70	1	/
TURBOIL-R 78013 S & MMS	17,40	16,80	1	/
TURBOIL-R 79017 S/MMS	17,45	16,85	1	/
TURBOIL-R 127011 S/MMS	18,95	18,35	1	/
TURBOIL-R 128013 S & MMS	22,15	21,55	1	/
TURBOIL-R 129017 S/MMS	22,20	21,60	1	/
TURBOIL-R 815017 S/MMS	24,25	23,65	1	/
TURBOIL-R 815021 S & MMS	24,95	24,35	1	/
TURBOIL-R 830025 S & MMS	26,05	25,45	1	/