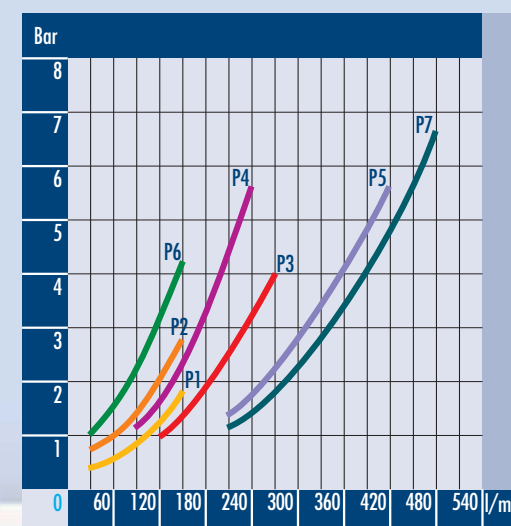




cSt	22	30	46	68	100	150	220
f	0,4	0,6	1	1,5	2,3	3,3	4,6

Dimensions and technical characteristics are not binding

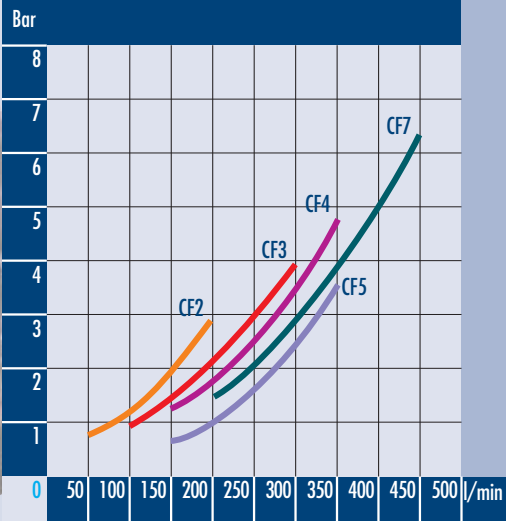
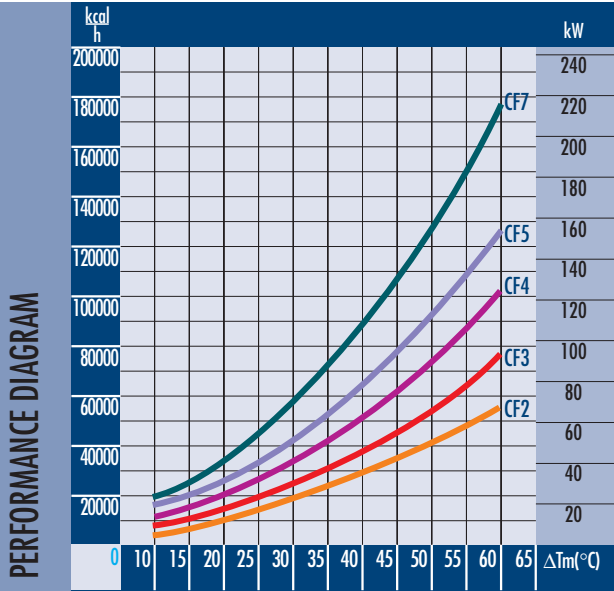


Type	Oil flow	kW dissipated with oil	Weight	Dimensions			
	l/min	= 50°C, 46 cSt, H2O=15°C	kg	Ø F	Li	Le	Lt
MS 134 P1	30 - 100	19 - 23	16,4	1 1/2" gas	285	286 - 384	480
MS 134 P2	40 - 130	33 - 37	22,6	1 1/2" gas	535	536 - 634	730
MS 134 P3	120 - 250	33 - 37	23,0	2" gas	520	536 - 634	730
MS 134 P4	80 - 250	48 - 56	30,7	1 1/2" gas	845	846 - 944	1.040
MS 134 P5	200 - 400	48 - 56	30,9	2" gas	830	846 - 944	1.040
MS 134 P6	30 - 120	70 - 75	40,0	1 1/2" gas	1.145	1.146 - 1.244	1.340
MS 134 P7	200 - 500	70 - 75	39,5	2" gas	1.130	1.146 - 1.244	1.340

TABLE

inspectable
water side

MS 134 CF inside the tank

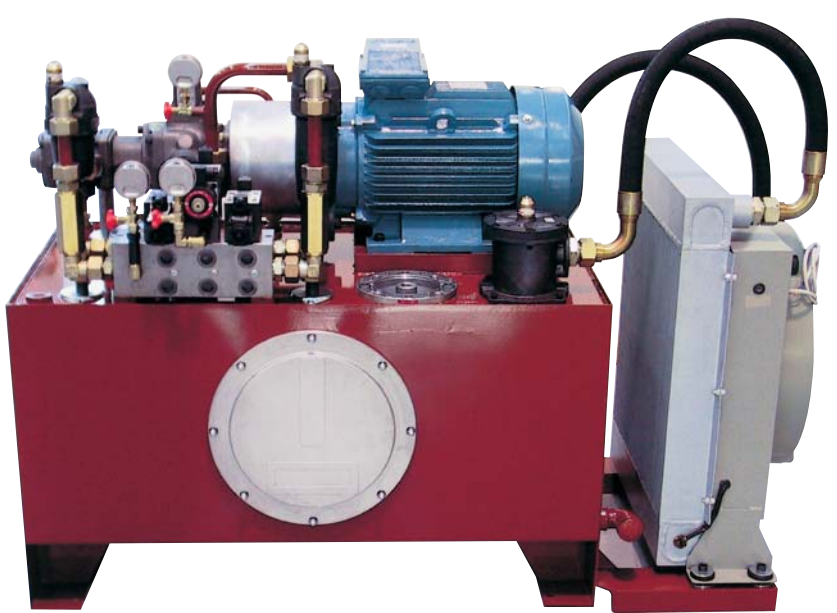
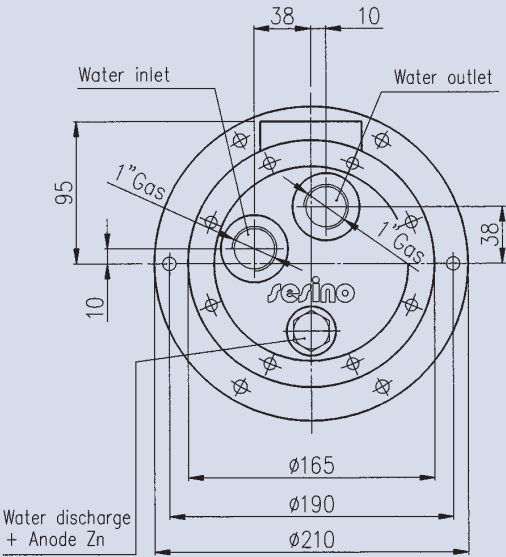
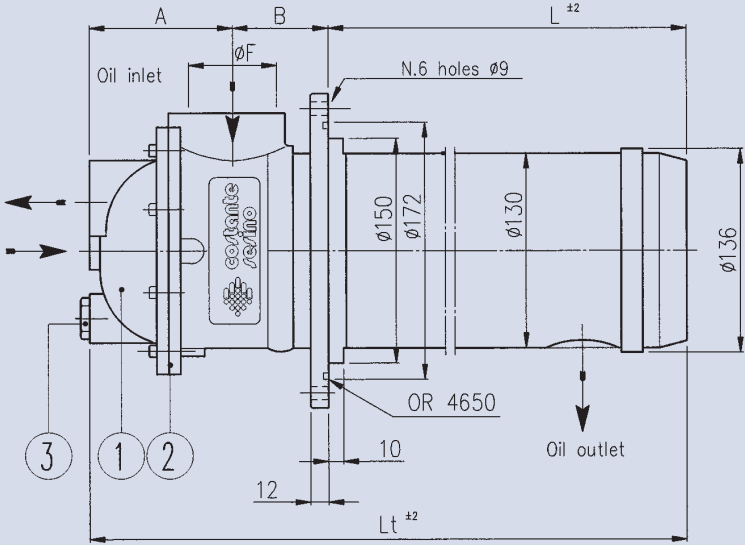


LOSS OF PRESSURE DIAGRAM

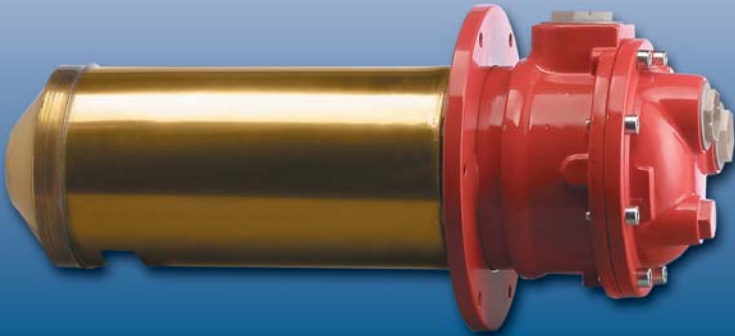
These have the same features as the exchangers in the series MS 84 B and MS 134 P. They are fitted inside the oil tank by means of a flange, welded on the exchanger, which must interface with a counter-flange, welded on the tank wall. These exchangers are used when it is necessary to reduce the dimensions of the gearcase. The pipe fitting for oil inlet is always outside the tank. The exchangers can be checked only from one side, outside the tank, in correspondence with the head and the pipe fittings for oil inlet and outlet. As internal cleaning is not always easy, we recommend the use of the outside the tank version, if the cooling water is particularly dirty. The exchange surfaces range from 0,2 a 3,7 m². To avoid any form of corrosion, it is necessary that the water rate be not greater than the following values:
45 l/min for MS 84 110 l/min for MS 134
If such values do not provides a good thermic yield, please consult our Technical Department.

cSt	22	30	46	68	100	150	220
f	0,4	0,6	1	1,5	2,3	3,3	4,6

CORRECTION FACTOR



Head gaskets: OR 4512



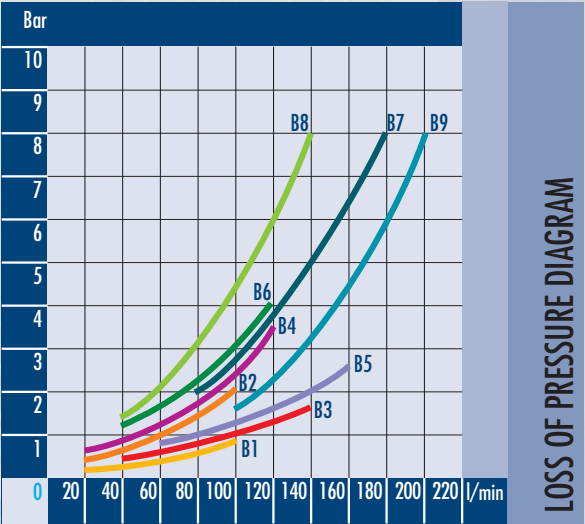
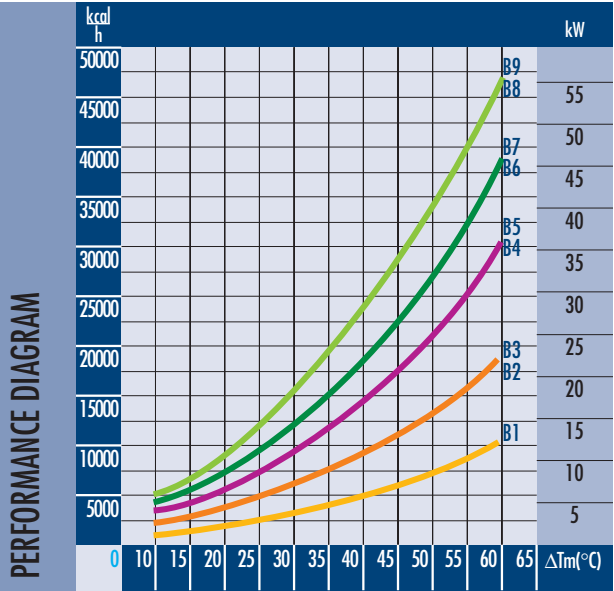
Dimensions and technical characteristics are not binding

Type	Oil flow l/min	kW dissipated with oil = 50°C, 46 cSt, H2O= 15°C	Weight kg	Dimensions
				F A B L Lt
MS 134 CF2	50 - 150	17 - 21	16,7	1 1/2" gas 80 68 314 462
MS 134 CF3	100 - 250	22 - 28	20,8	2" gas 88 60 465 613
MS 134 CF4	150 - 350	30 - 37	24,8	2" gas 88 60 635 783
MS 134 CF5	150 - 300	40 - 49	29,3	2" gas 88 60 817 965
MS 134 CF7	200 - 400	51 - 62	41,6	2" gas 88 60 1.135 1.283

TABLE

inspectable
water side

MS 84/2 B marine use



This version is recommended for a use with sea water. These exchangers are built with the following materials:

- Tube bundle: Coppernickel 90/10
- Tube plates: brass
- Shell: steel
- Heads: bronze

As sea water is full of impurities, this series of exchangers can be checked from the water side; after the disassembly of the two heads it is possible to check inside the tubes and to clean them.

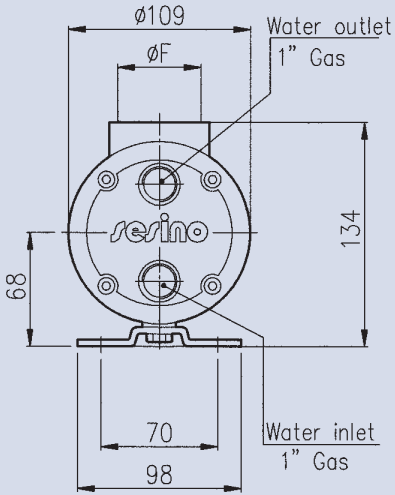
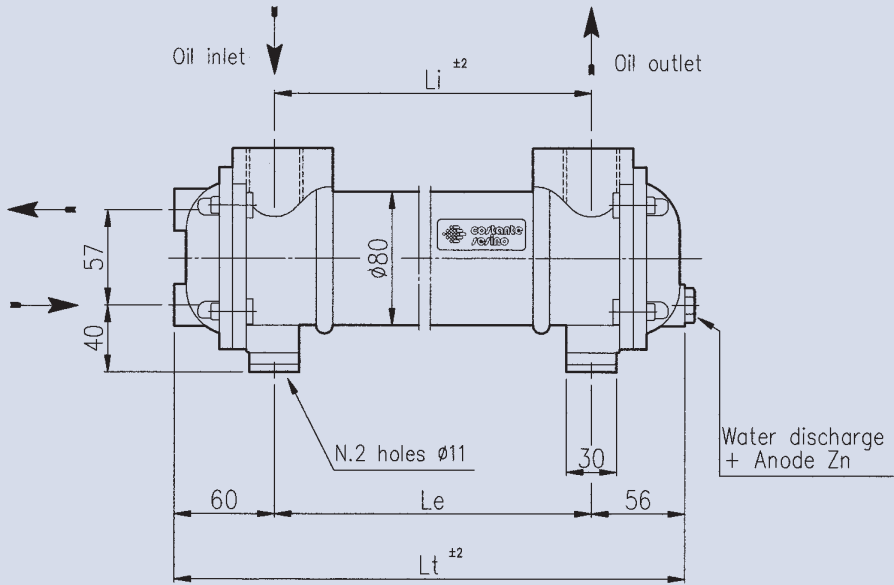
To avoid any form of corrosion, it is necessary that the cooling water rate be between the following values:

MS 84/2 30-80 l/min MS 134 35-100 l/min

If such values do not provide a good thermic yield, please consult our Technical Department. The exchangers with tube nest can be used with other fluids where compatability with copper and its alloys, is necessary. For every application, with the exception of oil cooling, it is recommended to consult our Technical Department.

cSt	22	30	46	68	100	150	220
f	0,4	0,6	1	1,5	2,3	3,3	4,6

CORRECTION FACTOR



Head gaskets: OR Ø 78x2,5



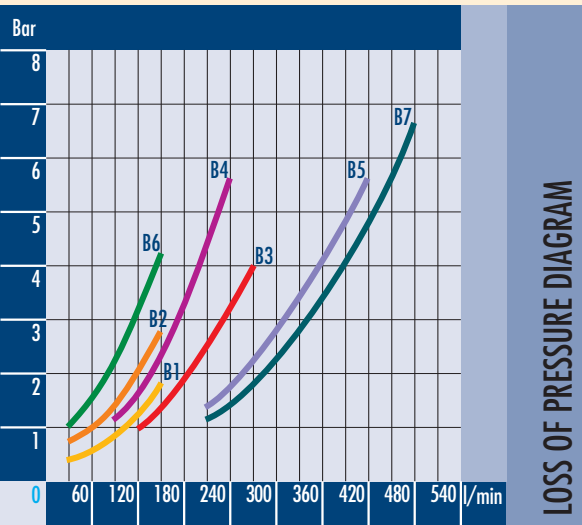
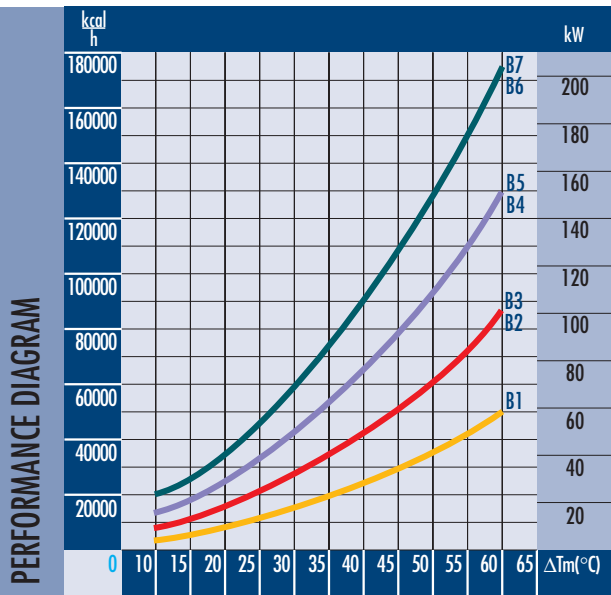
Dimensions and technical characteristics are not binding

Type	Oil flow l/min	kW dissipated with oil = 50°C, 46 cSt, H2O= 15°C	Weight kg	Ø F	Dimensions l Le Lt		
MS 84/2 B1	30 - 80	4 - 4,5	4,5	1" gas	150	150	270
MS 84/2 B2	20 - 60	7 - 8,0	6,3	1" gas	310	310	430
MS 84/2 B3	50 - 100	7 - 8,0	6,5	1" 1/2 gas	310	325	445
MS 84/2 B4	30 - 80	14 - 16,0	9,0	1" gas	560	560	680
MS 84/2 B5	80 - 130	14 - 16,0	9,0	1" 1/2 gas	560	575	695
MS 84/2 B6	40 - 90	17 - 20,0	10,8	1" 1/2 gas	715	730	850
MS 84/2 B7	100 - 160	17 - 20,0	10,8	1" 1/2 gas	715	730	850
MS 84/2 B8	60 - 110	20 - 23,0	12,3	1" 1/2 gas	870	885	1.005
MS 84/2 B9	140 - 190	20 - 23,0	12,3	1" 1/2 gas	870	885	1.005

TABLE

inspectable
water side

MS 134 B marine use



This version is recommended for a use with sea water. These exchangers are built with the following materials:

- Tube bundle: Coppernickel 90/10
- Tube plates: brass
- Shell: steel
- Heads: bronze

As sea water is full of impurities, this series of exchangers can be checked from the water side; after the disassembly of the two heads it is possible to check inside the tubes and to clean them.

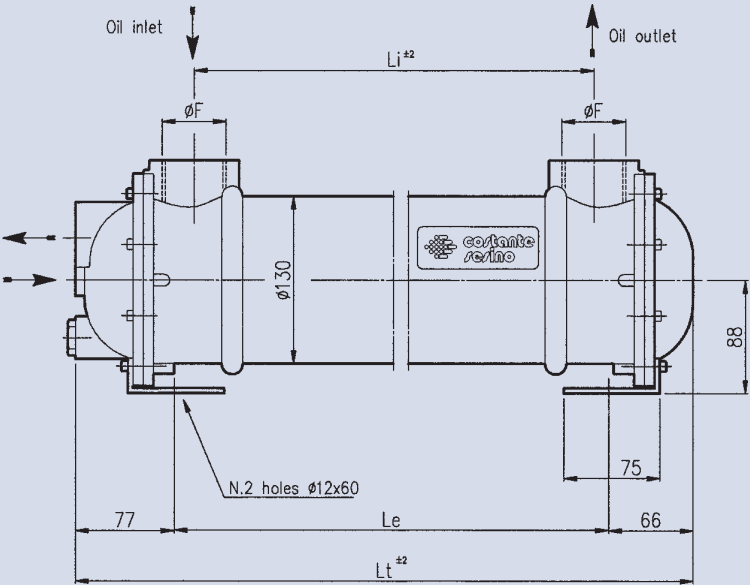
To avoid any form of corrosion, it is necessary that the cooling water rate be between the following values:

MS 84/2 30-80 l/min MS 134 35-100 l/min

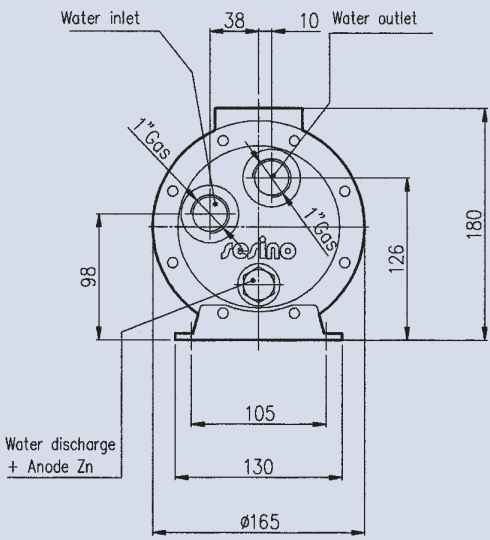
If such values do not provide a good thermic yield, please consult our Technical Department. The exchangers with tube nest can be used with other fluids where compatability with copper and its alloys, is necessary. For every application, with the exception of oil cooling, it is recommended to consult our Technical Department.

cSt	22	30	46	68	100	150	220
f	0,4	0,6	1	1,5	2,3	3,3	4,6

CORRECTION FACTOR



Head gaskets: OR 4512



Dimensions and technical characteristics are not binding

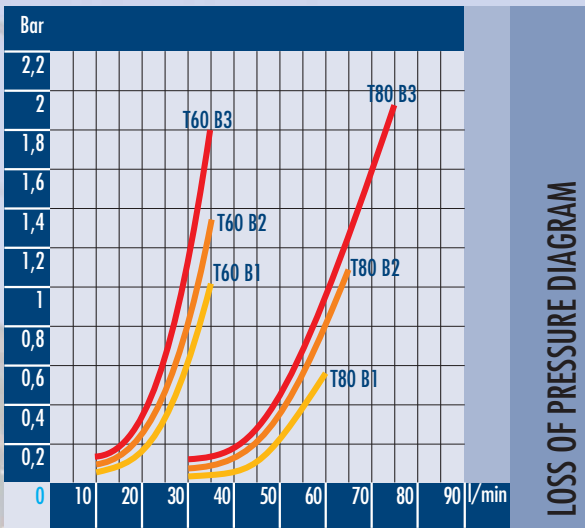
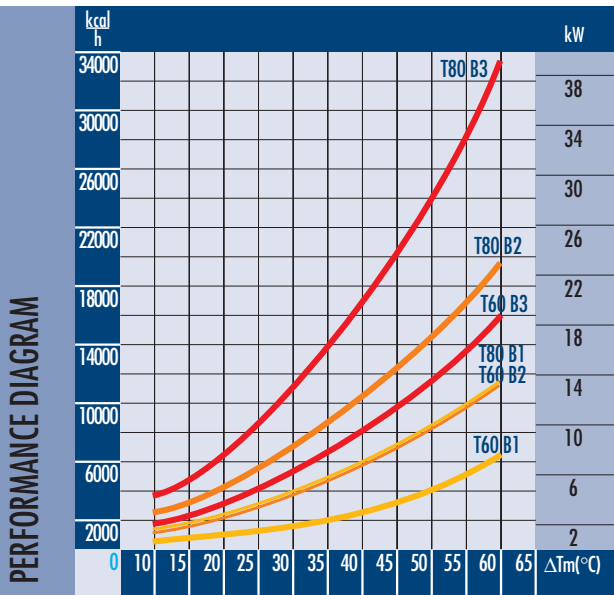


Type	Oil flow l/min	kW dissipated with oil = 50°C, 46 cSt, H2O= 15°C	Weight kg	Dimensions
				Ø F l Le Lt
MS 134 B1	30 - 100	19 - 23	16,4	1" 1/2 gas 285 246 - 344 440
MS 134 B2	40 - 130	33 - 37	22,6	1" 1/2 gas 535 496 - 594 690
MS 134 B3	120 - 250	33 - 37	23,0	2" gas 520 496 - 594 590
MS 134 B4	80 - 250	48 - 56	30,7	1" 1/2 gas 845 806 - 904 1.000
MS 134 B5	200 - 400	48 - 56	30,9	2" gas 830 806 - 904 1.000
MS 134 B6	30 - 120	70 - 75	40,0	1" 1/2 gas 1.145 1.106 - 1.204 1.300
MS 134 B7	200 - 500	70 - 75	39,5	2" gas 1.130 1.106 - 1.204 1.300

TABLE

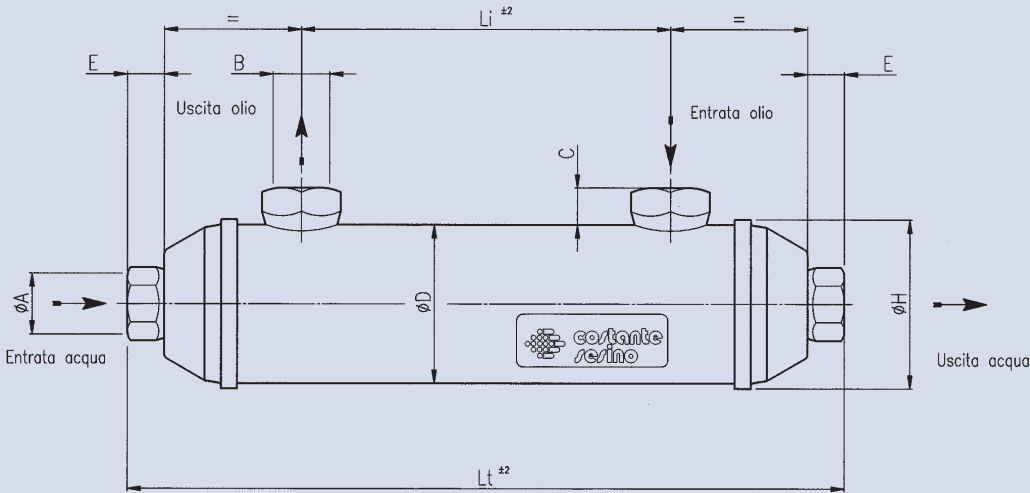
not inspectable
water inside

T60-80 B outside the tank



cSt	22	30	46	68	100	150	220
f	0,4	0,6	1	1,5	2,3	3,3	4,6

CORRECTION FACTOR



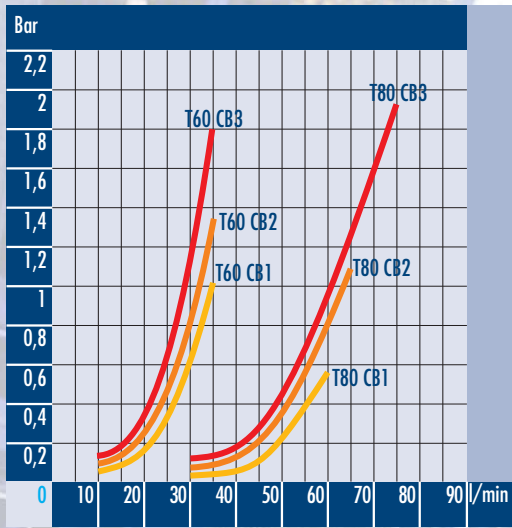
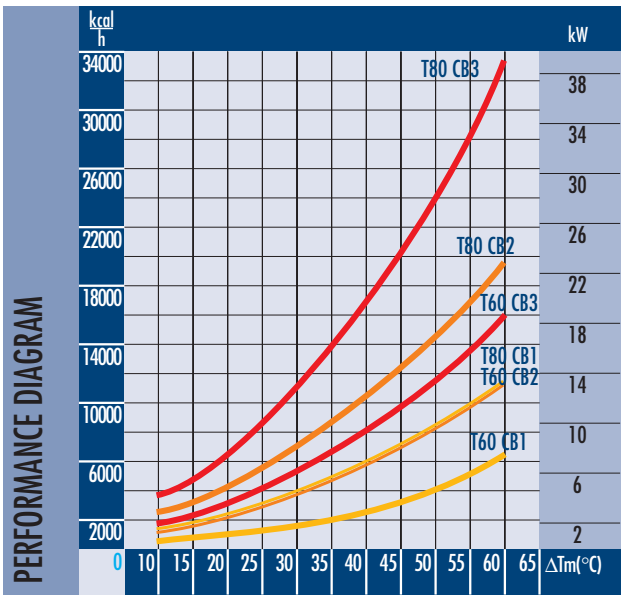
Dimensions and technical characteristics are not binding

Type	Oil flow l/min	kW dissipated with oil = 50°C, 46 cSt, H2O= 15°C	Weight kg	Dimensions							
				Lt	Ø D	Ø A	Ø B	Ø H	Li	C	E
T60 B1	5 - 30	2,0 - 2,5	1,7	278	60	1/2" gas	1/2" gas	65	140	17	17
T60 B2	5 - 30	3,0 - 4,0	2,5	398	60	1/2" gas	1/2" gas	65	260	17	17
T60 B3	5 - 30	4,0 - 5,0	3,6	578	60	1/2" gas	1/2" gas	65	440	17	17
T80 B1	20 - 50	4,0 - 4,5	3,0	300	80	1/2" gas	3/4" gas	85	120	19	17
T80 B2	20 - 60	6,5 - 7,5	4,8	460	80	1/2" gas	3/4" gas	85	280	19	17
T80 B3	30 - 80	9,0 - 10,0	7,7	710	80	1/2" gas	3/4" gas	85	530	19	17

TABLE

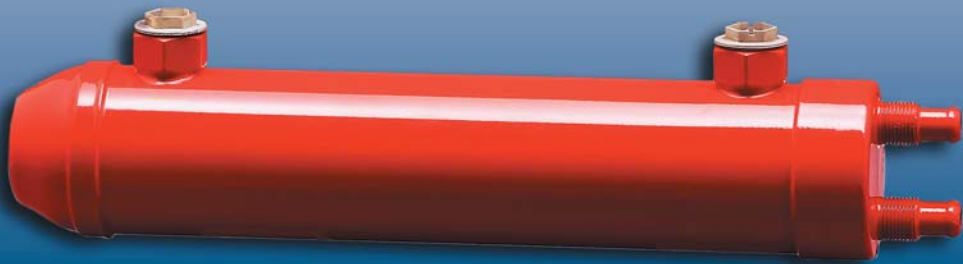
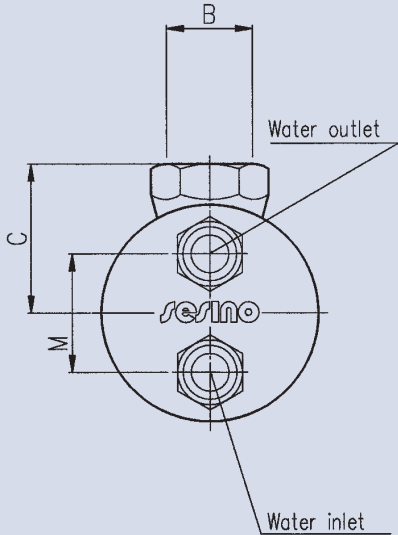
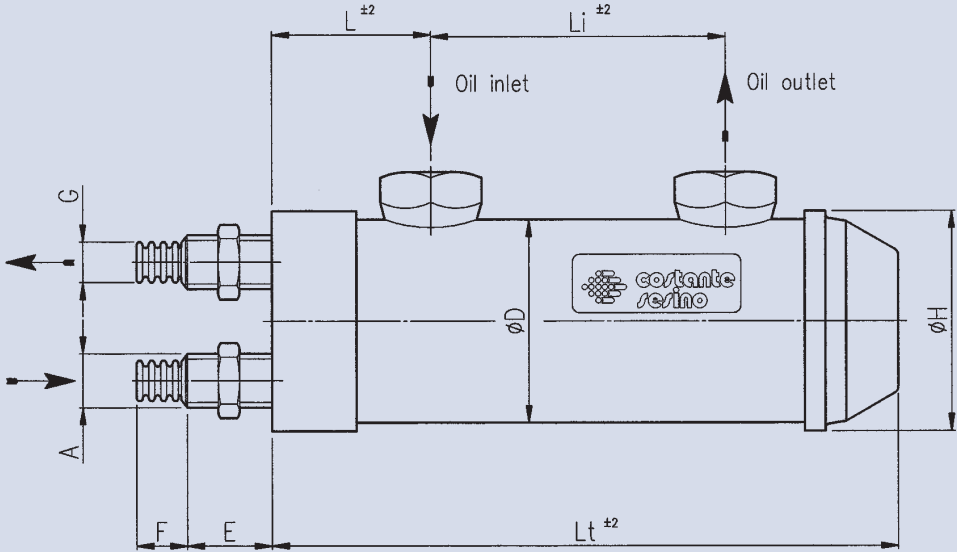
not inspectable
water inside

T60-80 CB outside the tank



cSt	22	30	46	68	100	150	220
f	0,4	0,6	1	1,5	2,3	3,3	4,6

CORRECTION FACTOR



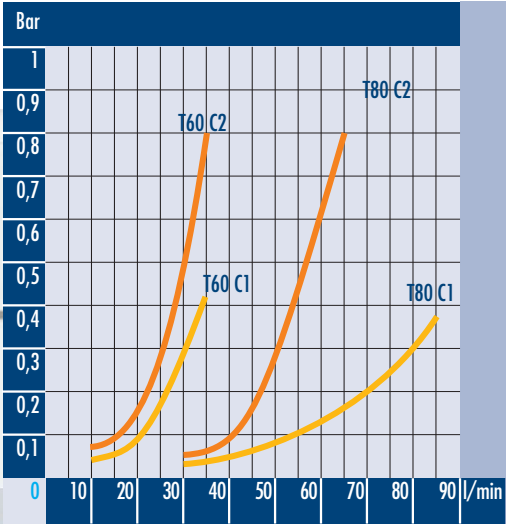
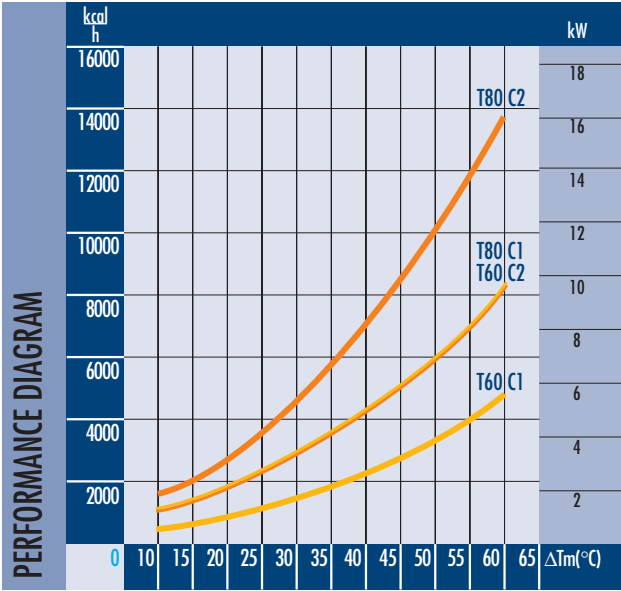
Dimensions and technical characteristics are not binding

Type	Oil flow	kW dissipated with oil	Weight		Dimensions										
	l/min	= 50°C, 40 cSt H2O= 15°C	kg	Lt	ØD	ØA	ØB	ØH	Li	ØG	M	C	L	F	E
T60 CB1	5 - 30	2,0 - 2,5	1,9	235	60	3/8" gas	1/2" gas	65	140	12	35	47	47	17	20
T60 CB2	5 - 30	3,0 - 4,0	2,6	355	60	3/8" gas	1/2" gas	65	260	12	35	47	47	17	20
T60 CB3	5 - 30	4,0 - 5,0	3,8	535	60	3/8" gas	1 1/2" gas	65	440	12	35	47	47	17	20
T80 CB1	20 - 50	4,0 - 4,5	3,2	255	80	1/2" gas	3/4" gas	85	120	17	45	65	60	20	20
T80 CB2	20 - 60	6,5 - 7,5	5,1	415	80	1/2" gas	3/4" gas	85	280	17	45	65	60	20	20
T80 CB3	30 - 80	9,0 - 10,0	8,0	665	80	1/2" gas	3/4" gas	85	530	17	45	65	60	20	20

TABLE

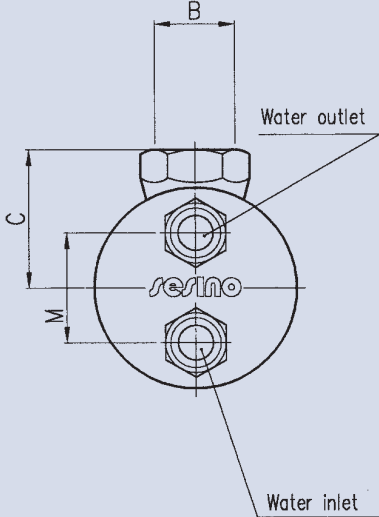
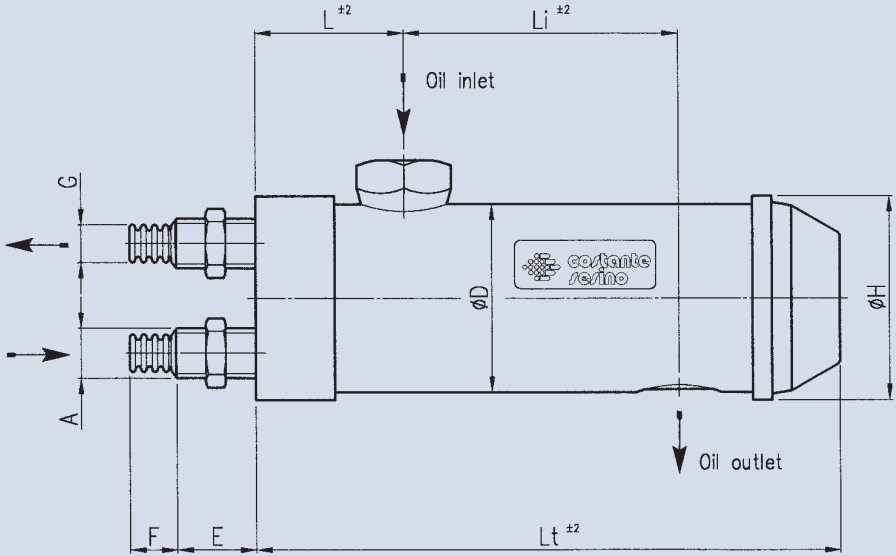
not inspectable
water inside

T60-80 C inside the tank



cSt	22	30	46	68	100	150	220
f	0,4	0,6	1	1,5	2,3	3,3	4,6

CORRECTION FACTOR



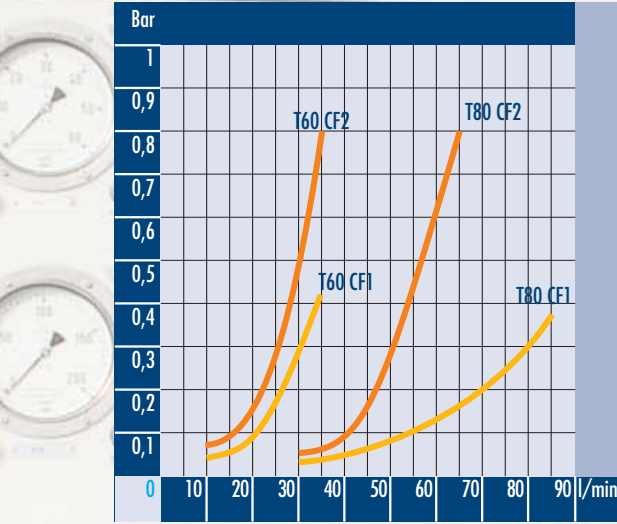
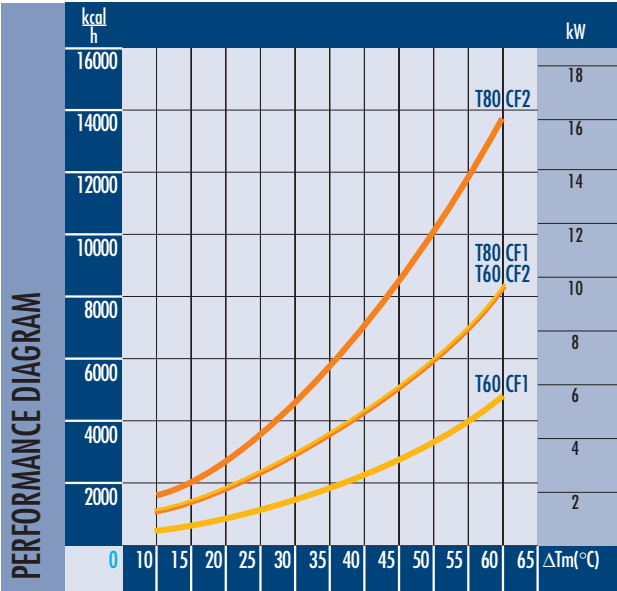
Dimensions and technical characteristics are not binding

Type	Oil flow l/min	kW dissipated with oil = 50°C, 40 cSt H2O= 15°C	Weight kg	Dimensions											
				Lt	ØD	ØA	ØB	ØH	Li	ØG	M	C	L	F	E
T60 C1	5 - 30	1,5 - 2	1,5	185	60	3/8" gas	1/2" gas	65	87	12	35	47	47	17	20
T60 C2	5 - 30	2,0 - 3	2,1	285	60	3/8" gas	1/2" gas	65	187	12	35	47	47	17	20
T80 C1	30 - 80	3,0 - 4	2,6	205	80	1/2" gas	3/4" gas	85	80	17	45	65	60	20	20
T80 C2	20 - 50	5,0 - 6	3,7	305	80	1/2" gas	3/4" gas	85	180	17	45	65	60	20	20

TABLE

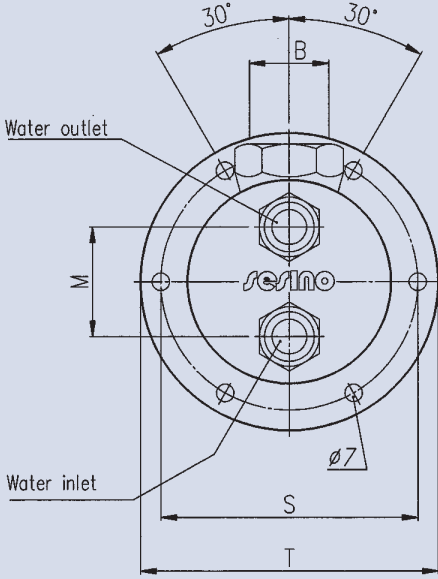
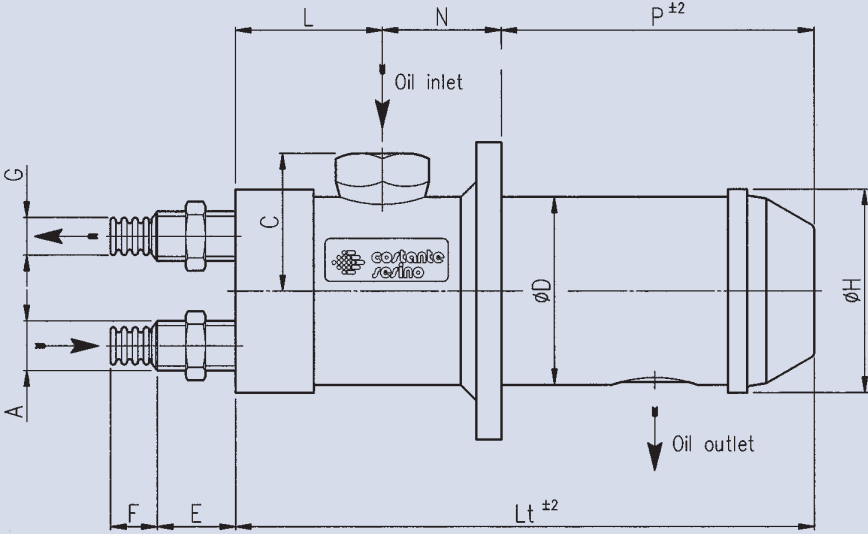
not inspectable
water inside

T60-80 CF inside the tank



cSt	22	30	46	68	100	150	220
f	0,4	0,6	1	1,5	2,3	3,3	4,6

CORRECTION FACTOR



Dimensions and technical characteristics are not binding

Type	Oil flow	kW dissipated with oil	Weight	Dimensions														
	l/min	= 50°C, 40 cSt H2O= 15°C		kg	Lt	ØD	ØA	ØB	ØH	P	ØG	ØS	ØT	N	M	C	L	F
T60 CF1	5 - 30	1,5 - 2	1,5	185	60	3/8" gas	1/2" gas	65	100	12	82	95	38	35	47	47	17	20
T60 CF2	5 - 30	2,0 - 3	2,1	285	60	3/8" gas	1/2" gas	65	100	12	82	95	38	35	47	47	17	20
T80 CF1	30 - 80	3,0 - 4	2,6	205	80	1/2" gas	3/4" gas	85	105	17	102	115	40	45	65	60	20	20
T80 CF2	20 - 50	5,0 - 6	3,7	305	80	1/2" gas	3/4" gas	85	205	17	102	115	40	45	65	60	20	20

TABLE