GVN

Refrigeration Components

OIL STRAINER

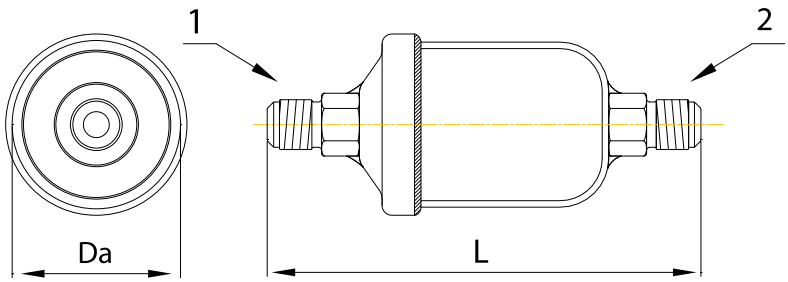
Product introduction ;

Oil strainers clear away the solid waste and the welding burrs that can cause damage in oil level regulators and compressors.
They prevent all kind of dirt from going to the oil level regulator, there by minimizing the blockage risk of the oil level regulator.

Oil strainers are placed between the oil reservoir and the oil level regulator.
Oil strainers should be fixed vertically and the inlet connection should be installed upwards.

1 Inlet Connection
2 Outlet Connection

Technical Data



Model	Dimension		Connection Size		CE
	Da (mm)	L (mm)	Inlet (Inch)	Outlet (Inch)	PED 97/23/EC
OSR-3/8s	Ø51	134	3/8"SAE Flare	3/8"SAE Flare	SEP
OSR-3/8f		141	3/8" ODS	3/8" ODS	

OIL LEVEL REGULATORS

ADJUSTABLE OIL LEVEL REGULATORS

OLR/A-01

OLR/A-03

FIXED OIL LEVEL REGULATORS

OLR-01

OLR-02

OLR-04

Product introduction ;

The function of an Oil Level Regulator is to prevent any problem with the flow of the oil into the compressor and to maintain and control the oil level in the compressor crankcase.
The oil level regulators are suitable for low pressure oil management systems and to use with reciprocating compressors. Oil fed from the 3/8" SAE inlet connection is supplied to the compressor crankcase via an internal ball float. The ball floatsystem shuts off any excess oil supply to the crankcase. A reduction in oil level in the crankcase activates the ball float, which ensures to achieve and maintain the correct crankcase oil level.

In adjustable regulators, the height of the ball float is designed to control the oil supply, and therefore, adjust the oil level of the crankcase according to the requirements.
With the multiple ports on the fixed flanged connections, oil level regulators are designed to allow fitting to any kind of compressor. A separator adapter may be needed for the treaded connections in some compressors.

The Oil Level Regulators are offered in 2 models, each with 4 different designs.
(Fixed OLR series and adjustable OLR/A series)

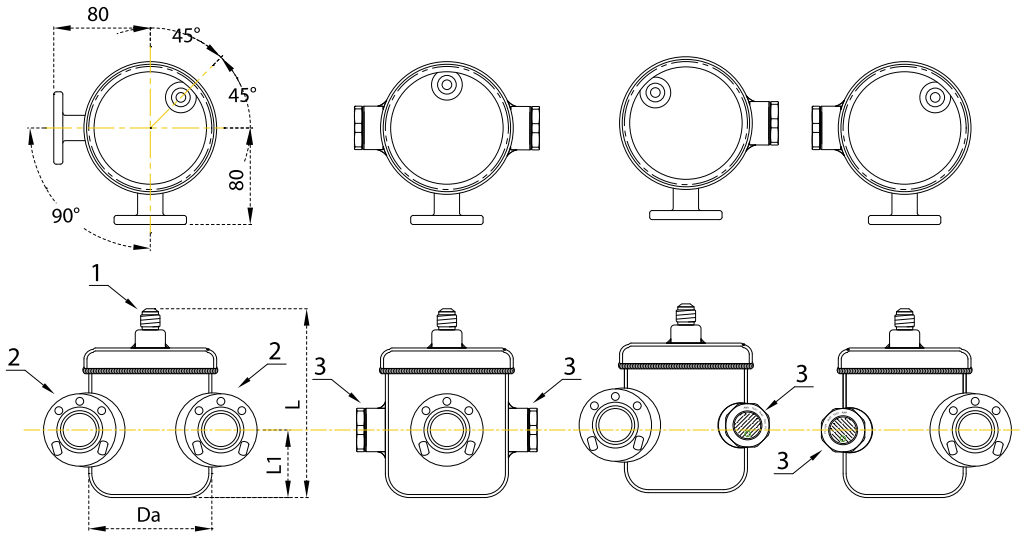
These 2 models have the following characteristics:
-) OLR-01 or OLR/A-01

Oil level regulators in 01 series have 2 flanges,
Sight glass dismantled from the compressor can be installed into the fixed flange connection and is able to rotate to any direction. It is a quiet conventional and economic product.

-) OLR-02 or OLR/A-02
02 series has 1 fixed flange and 2 sight glasses.
The product can be installed to the compressor from the fixed flange connection. Sight glasses in both sides allow monitoring the oil level conveniently.
-) OLR-03 or OLR/A-03 -OLR-04 or OLR/A-04
03 and 04 series have 1 fixed flange and 1 sight glass.
These products are the most ideal ones in terms of usage and cost because they have both fixed flange and one single sight glass.
2 options allow you to rotate the sight glass to any direction and thus remove the need to use the sight glasses on the compressor.
Level indicator balls inside the sight glass allow monitoring the oil level.
Ball float and needle systems in the oil level regulators are completely made of stainless material.
We strongly recommend you to use oil filters with the oil level regulators.

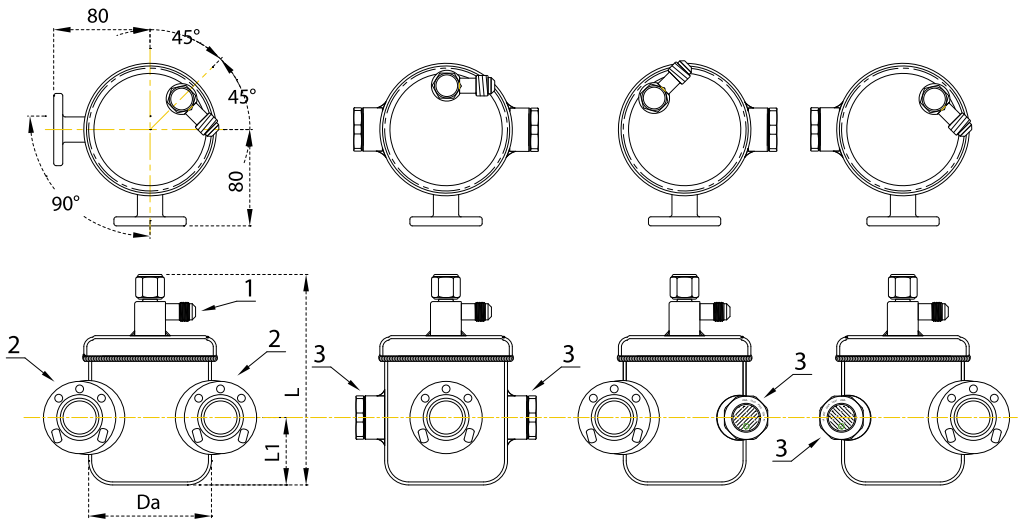
OIL LEVEL REGULATORS

OLR-01 | OLR-02 | OLR-03 | OLR-04 | Technical Data



Type A

OLR/A-01 | OLR/A-02 | OLR/A-03 | OLR/A-04

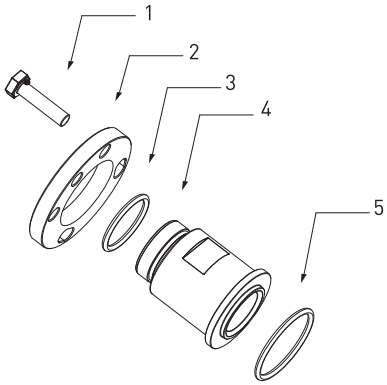


Type B

Model	Dimensions			Connection Sizes			Type	Regulator Type	Allowable Oil Pressure Differantial, bar	Allowable Operating Pressure	Allowable Operating Temperature	CE PED 32 Bar	CE 97/23/EC 45 Bar
	Da (mm)	L (mm)	L1 (mm)	1 (mm)	2 (mm)	3 (mm)							
OLR-01	Ø102	156,5	56	3/8" SAE Flare Inlet	3Bolt 1.7/8" B.C. & 4 Bolt 50mm B.C.	-	A	Fixed	0.35 to 2.1	0 to 33 bar	0° C to +110°C	SEP	SEP
OLR/A-01		175					B	Adjustable	0.35 to 6.2				
OLR-02		156,5				2xSW36	A	Fixed	0.35 to 2.1				
OLR/A-02		175					B	Adjustable	0.35 to 6.2				
OLR-03		156,5				SW36	A	Fixed	0.35 to 2.1				
OLR/A-03		175					B	Adjustable	0.35 to 6.2				
OLR-04		156,5					A	Fixed	0.35 to 2.1				
OLR/A-04		175					B	Adjustable	0.35 to 6.2				

ADAPTORS FOR COMPRESSORS

Technical Data



Model	Dimensions				
	1	2	3	4	5
OLR-ADP-10A	M8.8	3 Bolt 1.7/8"B.C. & 4 Bolt 50mm B.C.3,8	O ring	Thread 1 1/8"-12UNF	O ring
OLR-ADP-108	M8.8	3 Bolt 1.7/8"B.C. & 4 Bolt 50mm B.C.3,8	O ring	Thread 1 1/8"-18UNEF	O ring

Conpressors Adapter Kits List

Compressor		Compressor Connections	Adapter Kit Models
Manufacturer	Model		
BITZER	From 2 CC up to 2 KC	1.1/8" - 18UNEF Thread	OLR-ADP-10B
	From 4 CC up to 2 FC		
	ESH		
	From 4 NC up to 4 VC	3 Bolts, 1.7/8"B.C	Not Necessary
	6D - 6E		
	8 FC - 8 GC		Not Necessary
	2H - 2T - 4H - 4T - 4P	4 Bolts, 50 mm B.C	Not Necessary
	4G - 4H - 4J - 6F - 6G - 6J		
	S 4 - S 6		
BOCK	HA From 3 up to 5	3 Bolts, 1.7/8" B.C	Not Necessary
	HG From 3 up to 5		
	HG 7 & HG 8		
	AM From 2 up to 5	4 Bolts, 50 mm B.C	Not Necessary
	F From 2 up to 16		
	HA12,22,34/HG 12,22,34	1.1/8"- 18UNEF Thread	OLR-ADP-10B
CARRIER	EA, ER, 6E, OBE, OBCC	3 Bolds, 1.7 /8"B.C	Not Necessary
COPELAND	D2, D3, D4, D6, 4CC, 6CC	3 Bolds, 1.7 /8"B.C	Not Necessary
	D8, 8CC		Not Necessary
	DK, DL, DN, ZR, ZZ	1.1/8"- 12UNEF Thread	OLR-ADP-10A
DORIN	K, KP, 2S, Y	3 Bolds, 1.7 /8"B.C	Not Necessary
	H From 40CC up to 240SB	1.1/8"- 12UNEF Thread	OLR-ADP-10B
	K From 40CC up to 240SB		
DUNHAM BUSH	BIG 4	3 Bolds, 1.7 /8"B.C	Not Necessary
FRASCOLD	ALL	3 Bolds, 1.7 /8"B.C	Not Necessary
MANEUROP	ALL	1.1/8"- 12UNEF Thread	OLR-ADP-10B
REFCOMP	L, OF, SP	3 Bolds, 1.7 /8"B.C	Not Necessary
TECUMSEH	P, R, S, PA, RA, SA, CK, CM, CH, CG	1.1/8"- 12UNEF Thread	OLR-ADP-10A
	TAG, TAH	1.1/8"- 12UNEF Thread	OLR-ADP-10B
TRANE	M, R	3 Bolds, 1.7 /8"B.C	Not Necessary
YORK	GC, GS, JS	3 Bolds, 1.7 /8"B.C	Not Necessary

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OIL RESERVOIRS

Product introduction ;

The function of an Oil Reservoir is to provide a storage which stores the oil separated by oil separators to ensure that the oil is turned back to the crankcase of the compressor via oil level regulator.

Oil reservoir prevents circulation of the liquid to the oil level regulator, and thus the changes of oil flow caused by the compressor are prevented instantly.
Type of the oil reservoir should be determined according to the number of the compressor to be used or the oil volume of the unit.
Oil reservoirs operate in low pressure oil management systems.

Rotalock Valve
2 units of 3/8"SAE rotalack valves are supplied as installed on each reservoir to facilitate easy control of the oil fill anddrain.

Sight Glass
Oil reservoirs have 2 sight glasses for visual indication of the oil level. Sight glasses are designed considering minimum and maximum levels.
Level indicator balls in the sight glass provide great convenience to see the oil level.

Check Valve
A 3/8"SAE connection is provided at the top of the unit for fitting a check valve. Check valves are supplied according to the pressure demands.
A wide range of oil reservoirs with different volumes can be supplied.
Our oil reservoirs are in 2 different models, one with Deep Drawing other Steel Pipes casing. Please check the technical specifications for detailed information.
When the oil level is below the sight glass level on the oil reservoir, put some additional oil. Reservoirs should be installed in a position higher than the compressor crankcase. Oil reservoirs are manufactured according to the requirements of 97/23/EC.

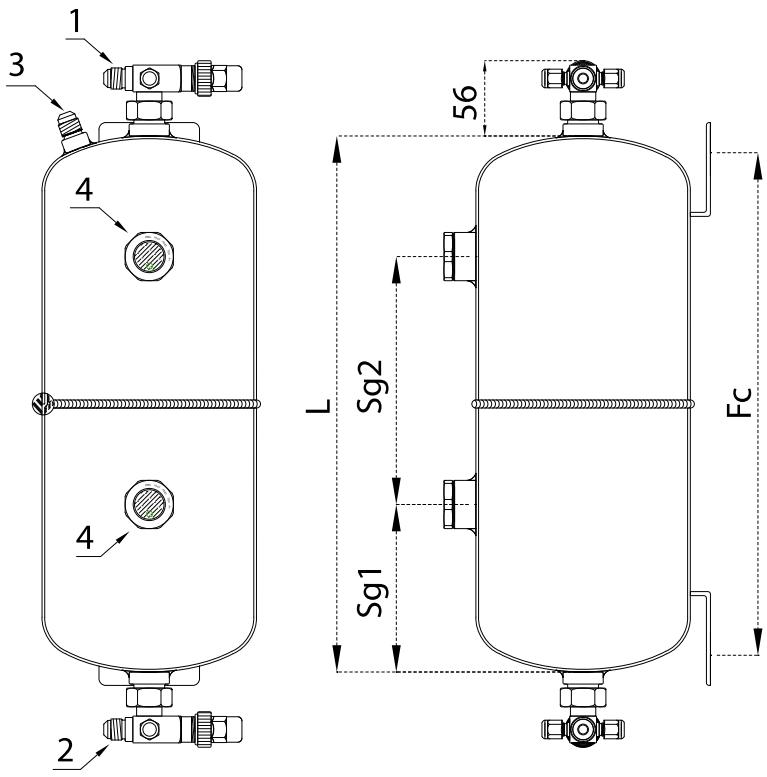
CHECK VALVE

Model	Pressure Setting (barg)	Connection Size (Inch)		CE
		Inlet	Outlet	PED 97/23/EC
S-9104	0,35 Fixed	3/8"SAE Flare Female	3/8"SAE Flare Male	SEP
S-9104H	1,4 Fixed	3/8"SAE Flare Female	3/8"SAE Flare Male	SEP
S-9104XH	2,4 Fixed	3/8"SAE Flare Female	3/8"SAE Flare Male	SEP

OIL RESERVOIRS

- Deep Drawn
- Max. Allowable Working Pressure - 33 Bar
- Max. Allowable Working Temperature / - 10° C + 130° C
- All models suppied with Sight Glasses
- All models suppied with Rotalock Valves
- All models suppied without Check valve
- We can manufacture products in different designs or with different volumes upon request..

1. Inlet Connection Rotalock valve, 3/8 SAE Flare
2. Outlet Connection Rotalock valve, 3/8 SAE Flare
3. 3/8 SAE Flare
4. Sight Glass (optional)



Model	Volume (Lt)	Dimensions					Connection Sizes			Sight Glass	CE	
		Da (mm)	L (mm)	Sg1 (mm)	Sg2 (mm)	Fc (mm)	Inlet (Inch)	Outlet (Inch)	Connection For Check Valve		PED 33 Bar	97/23/EC 45 Bar
OR-01	3,8	Ø 140	280	90	120	255	Rotalock Valve 3/8" SAE Flare		3/8" SAE Flare	SW36 with Swiming Ball	CAT I / A1	/
OR-02	7,2	Ø 160	400	125	185	375					CAT II / A1	
OR-03	10,8	Ø 180	480	140	220	455						
OR-04	14,6	Ø 219	440	140	190	395						
OR-05	18,7		560	190	240	515						
OR-06	23,3	Ø 273	450	150	190	270						

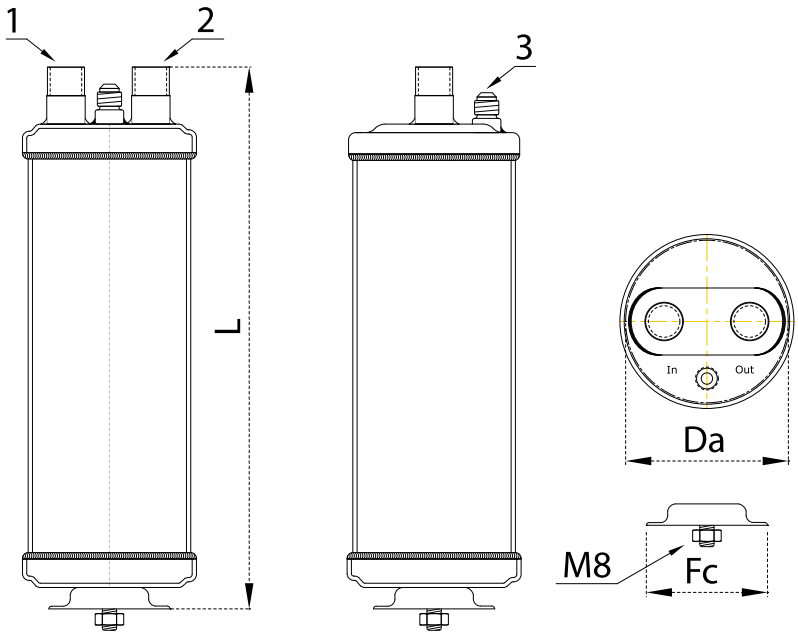
CONVENTIONAL OIL SEPARATORS

Product introduction ;

The function of a Conventional Oil Separator with Float Mechanism is to remove oil from the discharge gas and return it to the compressor crankcase in a proper and precise manner.
It helps maintain the oil level of the compressor crankcase and raises the efficiency of the system by preventing excessive oil circulation.
These Oil Separators are suitable for low pressure oil management systems.
The oil separators are designed for scroll and reciprocating compressors. They are not suitable to use with screw compressors.
Conventional Air Separators with Float Mechanism are products operating with a ball float.
The float mechanism of the oil separators, which is completely made of stainless and yellow material, operates with a very precise and sound needle valve system.
Type of Oil Separator should be selected according to the type of the compressor used. Oil Separators are installed vertically between compressors and condensers.
Conventional oil separators are quite easy-to-use products because they do not contain any replaceable part. They are more economic than oil separators of other types.
With proper selection, oil separation efficiency is typically 80%.
Oil separators are manufactured according to the requirements of 97/23/EC.

CONVENTIONAL OIL SEPARATORS

1. Inlet Connection
2. Outlet Connection
3. Oil Return, 3/8 SAE Flare



Model	Volume (Lt)	Dimensions			Connection Sizes		Oil Addition (kg)	Max. Differantal Pressure (bar)	TS(C)		CE	
		Da (mm)	L (mm)	Fc (mm)	Inlet / Outlet (Inch)	Oil Connection			Min.	Max.	PED 32 Bar	97/23/EC 45 Bar
OS-1/2	2,3	Ø114	302	Ø114 * M8	1/2" ODS	3/8" SAE Flare	0,4 / 0,5	21 bar	-10°	+130°	CAT I / A1	CAT I / A1
OS-5/8	2,9		372		5/8" ODS							
OS-3/4			372		3/4" ODS							
OS-7/8			380		7/8" ODS							
OS-1 1/8	3,5		445		1 1/8" ODS							
OS-1 3/8	4,7	Ø 140	400	Ø135	1 3/8" ODS							
OS-1 5/8	7,7	Ø 165	467	Ø161	1 5/8" ODS		0,6 / 0,7				CAT II / A1	CAT II / A1
OS-2 1/8			472		2 1/8" ODS							

Model	Capacity In KW Of Refrigeration At Nominal Evaporator Temperature				Maximum Discharge Volume (m3/hr)
	R 404A / 507		R 22		
	- 40° C	5° C	- 40° C	5° C	
OS-1/2	8,8	10,9	8,9	10,01	4,1
OS-5/8	13,7	17,1	13,8	15,8	6,4
OS-3/4	19,7	24,6	19,9	22,8	9,2
OS-7/8	26,8	33,4	27,1	31,0	12,6
OS-1 1/8	44,4	55,3	44,9	51,3	20,8
OS-1 3/8	86,2	99,1	87,4	91,9	31,0
OS-1 5/8	92,6	115,3	93,6	107,0	43,3
OS-2 1/8	96,8	120,5	97,8	111,8	45,3

HELICAL OIL SEPARATORS & RESERVOIRS

Product introduction ;

The function of a Helical Oil Separator is to efficiently remove oil from the discharge gas and return it to the compressor crankcase in a proper and precise manner.
This helps maintain the oil level of the compressor crankcase and raises the efficiency of the system by preventing excessiveoil circulation.

Helical oil separators provide a higher level of efficiency compared to a conventional oil separator with float mechanism.

Helical oil separators can be used in a wide variety of applications.
Helical oil separators are intended for low pressure oil management systems, but they can also be used in high pressure oil management systems.

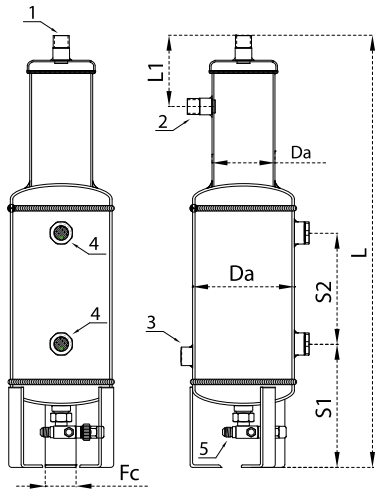
These oil separators are designed for use with scroll and reciprocating type compressors.
They are not suitable to use with screw compressors.

There is an oil reservoir in the lower chamber of the helical oil separators.
1 unit of 3/8"SAE rotalack valve is supplied as installed on each reservoir to facilitate easy control of the oil fill and drain.

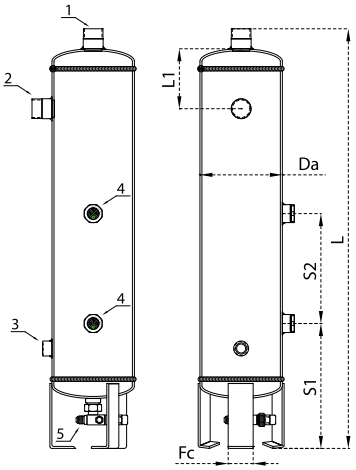
Oil reservoirs have 2 sight glasses for visual indication of the oil level. Sight glasses are designed considering minimum and maximum levels.
Level indicator balls in the sight glass provide great convenience to see the oil level.
With proper selection, oil separation efficiency is typically 95%.

HELICAL OIL SEPARATORS & RESERVOIRS

Type (A)

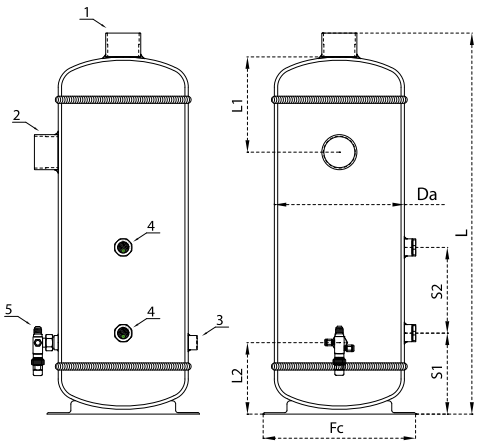


Type (B)



1. Outlet Connection
2. Inlet Connection
3. Oil Level Sensor Connection
4. Sight Glass
5. Oil Return, Rotalack valve, 3/8 SAE Flare

Type (C)



Model	Volume (Lt)	Dimensions					Type	Connection Sizes			Sight Glass	CE PED 33 Bar	CE 97/23/EC 45 Bar
		Da (mm)	L (mm)	L1 (mm)	L2 (mm)	Fc (mm)		Inlet &Outlet (Inch)	Oil Reservoir Outlet (Inch)	sv (Inch)			
OS/OR/A-7/8	6,8	Ø165 Ø140	700	115	-	Ø 125	A	7/8" ODS	Rotalock Valve 3/8" SAE Flare	1/2" NPTF	SW36 with Swiming Ball	CAT II / A1	CAT II / A1
OS/OR/A-1 1/8								11/8" ODS					
OS/OR/B-1 3/8	13,2	Ø165	840	160	-		B	13/8" ODS					
OS/OR/B-1 5/8			845	165				15/8" ODS					
OS/OR/B-2 1/8	14,2		900	170				21/8" ODS					
OS/OR/C-2 1/8	21,5	Ø 219	700	200	120	Ø 249	C	21/8" ODS					
OS/OR/C-2 5/8	38,3	Ø 273	800	250	150	Ø 320		25/8" ODS				CAT III / B+C1	CAT III / B+C1
OS/OR/C-3 1/8	54,7	Ø 324	830	300	170			31/8" ODS					

Model	kW Capacity In kW Of Refrigeration At Nominal Evaporator Temperature						Maximum Discharge Volume (m3/hr)
	R404A / 507		R22		R717		
	-40°C	5°C	-40°C	5°C	-40°C	5°C	
OS/OR/A-7/8	26,8	33,4	27,1	31,0	N/A	N/A	12,6
OS/OR/A-1 1/8	44,4	55,3	44,9	51,3	N/A	N/A	20,8
OS/OR/B-1 3/8	66,3	82,6	67,0	76,6	N/A	N/A	31,0
OS/OR/B-1 5/8	92,6	115,3	93,6	107,0	94,03	125,38	43,3
OS/OR/B-2 1/8	96,8	120,5	97,8	111,8	98,27	131,02	45,3
OS/OR/C-2 1/8	205,8	236,7	208,8	219,5	214,40	257,28	74,1
OS/OR/C-2 5/8	241,6	301,0	244,3	279,2	N/A	N/A	113,1
OS/OR/C-3 1/8	342,4	426,6	346,2	395,7	N/A	N/A	160,2

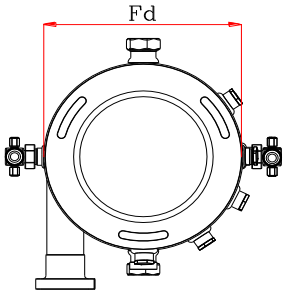
All data is for a 38°C condensing temperature, 18°C suction temperature and a connection size the same as the compressor discharge valve

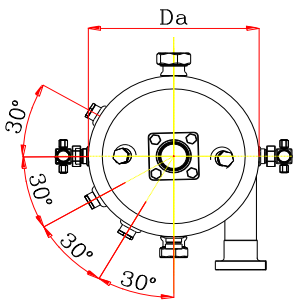
OIL SEPARATORS

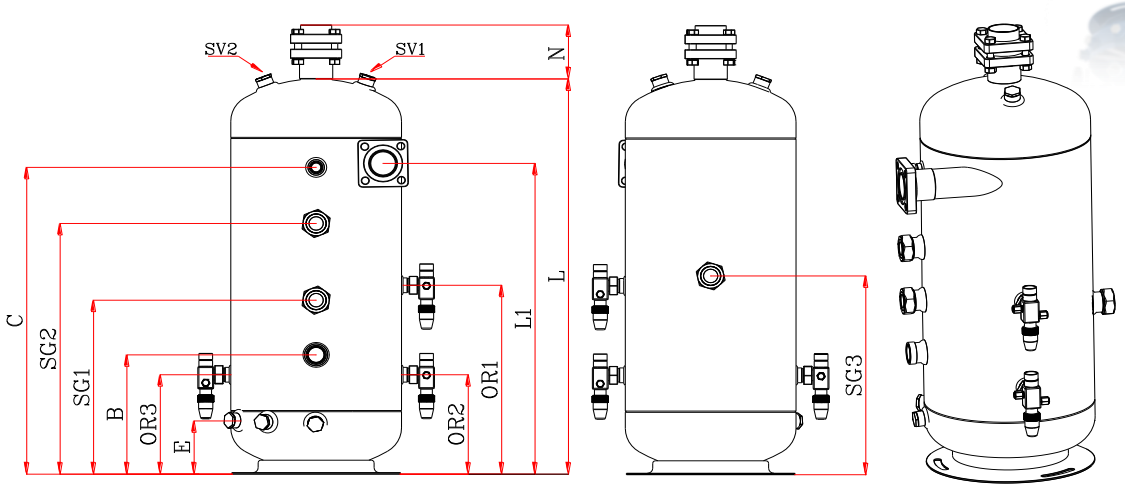
FOR SCREW COMPRESSORS

OS/D-180x2	OS/D-400x2	OS/D-900x3	OS/D-1300x3

TECHNICAL INFORMATIONS







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OIL SEPARATORS

FOR SCREW COMPRESSORS

TECHNICAL INFORMATIONS

Model		OS/D-180x2	OS/D-400x2	OS/D-900x3	OS/D-1300x3
COMPRESSOR SUCTION VOLUME					
Air Conditioning	m³/h	270	490	940	1320
Cooling and Low Temperature	m³/h	300	600	1320	1600
NOMINAL DATA					
Total Volume	dm³	40	120	220	330
Oil Volume	dm³	19	50	90	130
Max. Compressor	N.	2	3	6	6
Weight	Kg.	0	0	0	0
DIMENSIONS					
Da	mm	324	406	508	600
L	mm	720	1050	1300	1300
Fc	mm	320	430	550	650
L1	mm	540	800	1000	1000
N	mm	belirlenecek	belirlenecek	belirlenecek	belirlenecek
OR1	mm	380	500	600	600
OR2	mm	200	250	300	300
OR3	mm	200	250	300	300
E	mm	88	110	120	120
SG1	mm	350	440	500	500
SG2	mm	-	-	800	800
SG3	mm	400	590	650	650
B	mm	240	260	300	320
C	mm	540	800	1000	1000
CONNECTIONS					
Refrigeration Inlet Connection	L1	ODS 54	OD 76	OD 89	OD 114
Refrigeration outlet Connection	N	ODS 54	OD 76	OD 89	OD 114
Oil Inlet Connection	OR1	7/8" Rot. Valve			
Oil Outlet Connection	OR2	7/8" Rot. Valve			
Parallel Compressor Oil Outlet Connection	OR3	1 1/4" Rtlk	1 3/4" Rtlk	ODS 42	ODS 54
Oil Heaters, Thermostat, Resistance, Oil Level Sensor Connections	E	3 x 1/2"NPTF	3 x 1/2"NPTF	4 x 1/2"NPTF	5 x 1/2"NPTF
Oil Sight Glasses & Swimming Ball	SG1	SG-1 3/4" Sight Glasses			
Oil Sight Glasses & Swimming Ball	SG2	SG-1 3/4" Sight Glasses			
Oil Sight Glasses & Swimming Ball	SG3	SG-1 3/4" Sight Glasses			
Oil Control Level Connection	B	1 3/4" Rotalock with Plug			
Service Valve Connection	C	1 1/4" Rotalock with Plug			
Service Valve Connection	SV1	1/2" NPT Connection & Plug			
Safety Valve Connection	SV2	3/8" NPT Connection & Plug			
CERTIFICATES					
CATEGORY	97/23/EC	[B + C1] III	[B + D] IV	[B + D] IV	[B + D] IV
Working Pressure / Hydraulic Press. Test / Pneumatic Press. Test = 32 Bar / 48 Bar / 36 Bar					
Min/Max Temperature Pressure = -10°C / +120°C					
Refrigerant Type = HFC, HCFC, NH3					

HELICAL OIL SEPARATORS

The function of the Helical Oil Separators is to efficiently remove oil from the discharge gas and return it to the compressor crankcase in a proper and precise manner.
This helps maintain the oil level of the compressor crankcase and raises the efficiency of the system by preventing excessive oil circulation.
Helical oil separators provide a higher level of oil separating efficiency compared to conventional oil separators.
Helical oil separators can be used in a wide variety of applications, including multi-compressors.

These oil separators are suitable for low pressure oil management systems and to use with reciprocating compressors.
They should not be used with scroll and reciprocating type compressors.

- Helical Oil Separators contain a float mechanism and they undergo a very sensitive production process.
- All active parts of the float mechanism are completely made of stainless material.
- The float mechanism is protected against any pressure or circulation that may occur in the product.
- There is a permanent magnet positioned at the oil sump around the float mechanism to capture any ferrous contaminant, and this feature helps the valve operate in a cleaner environment.
- The flange assembly of the float mechanism can be disassembled or replaced easily with its special mounting feet interface.
- The internal surface of the oil separator is wrapped with a stainless filter which causes the heavy oil particles to collide with the filters along the spiral way and eventually allows such oil particles to be separated from the discharge gas and to move on smoothly.

Product Name	: Helical Oil Separator
Product Type	: Flange System
Working Pressure PS)	: 33 Bar
Test Pressure / H. Statick (PT)	: 37 Bar
Test Pressure / Pneumatic (PT)	: 48 Bar
Working Temperature (TS)	: - 10 + 130
Color (RAL)	: 5009

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HELICAL OIL SEPARATORS

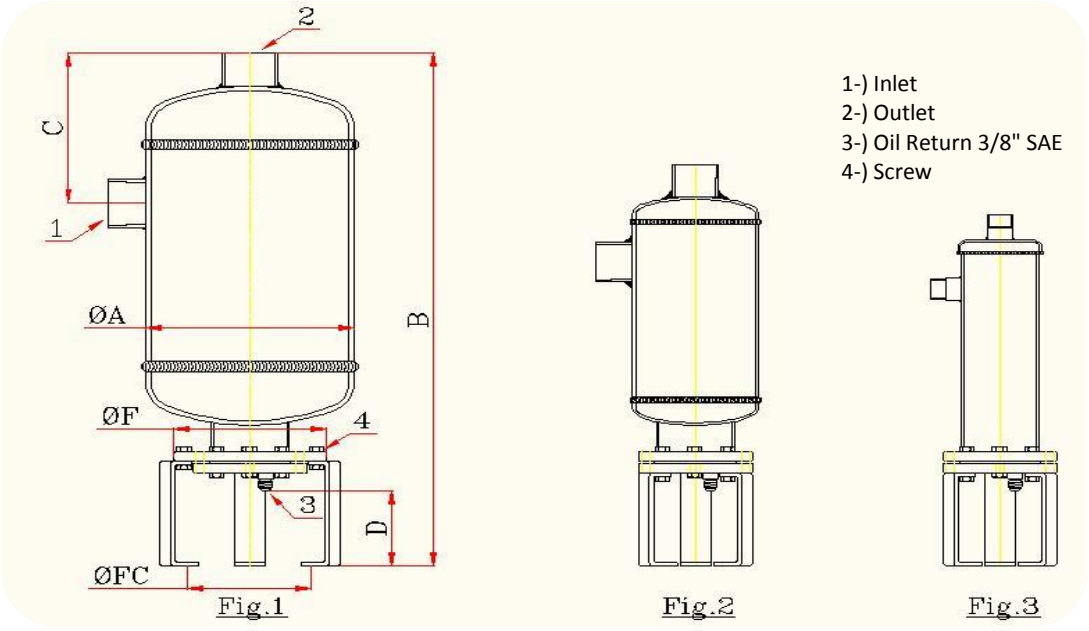

Fig.1 Fig.2 Fig.3

Code	Conn. Size Inch	Ø A mm	B mm	C mm	D mm	Ø F mm	Ø FC mm	Screw	Mounting Details	Design	CE 97/23/EC Category
OS/HF-178	7/8 ODS	102	585	75	115	150*150	131	8 x M10	3 x Ø20*12mm Slots	Fig.1	CAT II
OS/HF-1118	1 1/8 ODS	102	635	75						Fig.1	CAT II
OS/HF-2138	1 3/8 ODS	165	555	90						Fig.2	CAT III
OS/HF-2158	1 5/8 ODS	165	625	75						Fig.2	CAT III
OS/HF-2218	2 1/8 ODS	165	610	90						Fig.2	CAT III
OS/HF-3158	1 5/8 ODS	219	615	130		200*150	151	11 x M10		Fig.3	CAT III
OS/HF-3218	2 1/8 ODS	219	695	150						Fig.3	CAT III
OS/HF-4258	2 5/8 ODS	273	785	180						Fig.3	CAT III
OS/HF-5318	3 1/8 ODS	324	875	220			175			Fig.3	CAT IV

Code	Capacity in kW refrigeration at nominal evaporator temperature						Max. Discharge volume (m37hr)
	R404A/507		R404A/507		R404A/507		
	- 40˚C	5˚C	- 40˚C	5˚C	- 40˚C	5˚C	
OS/HF-178	23,0	30,0	24,6	28,2	N/A	N/A	10,2
OS/HF-1118	29,8	38,7	31,7	37,0	N/A	N/A	13,6
OS/HF-2138	42,2	52,8	44,8	49,3	59,8	63,3	18,7
OS/HF-2158	52,8	66,9	56,3	63,4	77,4	80,9	23,8
OS/HF-2218	84,4	109,0	88,0	106,0	120,0	127,0	37,4
OS/HF-3158	109,0	144,0	123,0	137,0	N/A	N/A	49,3
OS/HF-3218	109,0	144,0	123,0	137,0	N/A	N/A	49,3
OS/HF-4258	225,0	292,0	250,0	281,0	N/A	N/A	102,0
OS/HF-5318	352,0	461,0	394,0	447,0	N/A	N/A	159,8

Note: All data is for a 38 C condensing temperature, 18 C suction temperature and a connection size the same as the compressor discharge valve