O&F

欧达●法斯克

2022

始创于1994年　行业领导品牌　一站式配套服务

天津市欧达法斯克制冷设备有限公司

Tianjin OUDAFASIKE Refrigeration Equipment Co.,Ltd

www.fasike.com

天津市欧达法斯克制冷设备有限公司

天津市欧达法斯克制冷设备有限公司始建于1994年，专业生产制冷装置用压力容器及控制元件。拥有标准工业厂房10000平方米，多台自动化生产设备，一大批具有多年工作经验的持证员工。

公司取得了TUV ISO9001质量体系认证、压力容器设计许可证、压力容器制造许可证、安全阀制造许可证、GC2压力管道设计许可证。

产品包括：油分离器、气液分离器、冷热交换器、储液器、液位控制系统、油位控制系统、安全阀、制冷用压力软管等。

Tianjin OUDAFASIKE Refrigeration Equipment Co., Ltd. was founded in 1994, specializing in the production of refrigeration equipment pressure vessels and control components. With standard industrial plant 10000 square meters, a number of automatic production equipment, a large number of certified employees with many years of work experience.

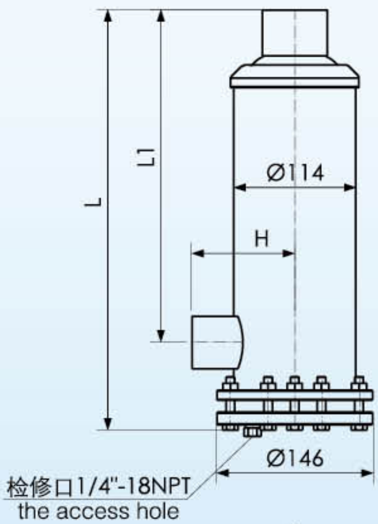
The company has obtained TUV ISO9001 quality system certification, pressure vessel design license, pressure vessel manufacturing license, safety valve manufacturing license, GC2 pressure pipe design license.

Products including: Oil separator, Accumulator, Heating&cooling exchanger, Liquid receiver, Liquid level control system, Oil level control system, Safety valve, Pressure hose for refrigeration, etc.

目录 CATALOG

- 进出口设计为坚固的碳钢接口；
- 过滤器标准配制2个金属过滤网；
- 作为供液管过滤器使用时，安装FJ-48A固体干燥滤芯可以过滤系统内杂质、吸收水分和酸性物质；
- 作为吸气管过滤器使用时，为了减少压力降，建议拆掉2个金属过滤网。使用FRE-48纤维百褶滤芯或FRE-48W不锈钢滤芯，可有效的过滤掉系统内的杂质，避免脏物进入压缩机延长压缩机的使用寿命；
- 通过高精度的法兰、组装式滤芯架和安装弹簧使更换滤芯变得非常容易；
- 装有测量压力降和充注用的检修口；
- 设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

- The inlet and outlet are made by stable carbon steel;
- The filter is standard assembled with 2 pieces of metal filter screens;
- When you use the filter in the liquid line, please use the filter core FJ-48A which can filter out the dirt in the system, and it also can absorb the water and acid materials;
- When you use the filter in the suction line, in order to reduce the pressure drop, we suggest that you should disassemble 2 pieces of metal filter screens. And you can use the filter core FRE-48 or FRE-48W which can filter out the dirt in the system, and it also can prevent the dirt to enter into the compressor for prolonging the service life;
- With the design of high-accuracy flange and modular filter core support and assembled spring, it is so easy for you to replace the filter core;
- There is a access hole for measuring the pressure drop and charging function;
- The design pressure: 2.9MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



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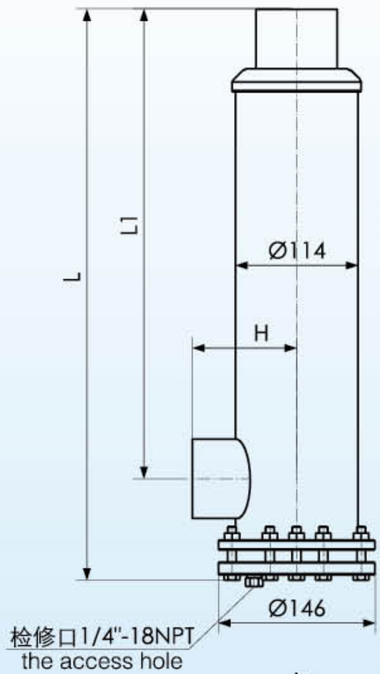

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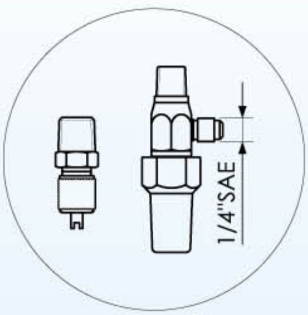
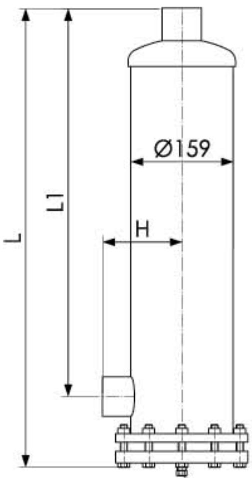


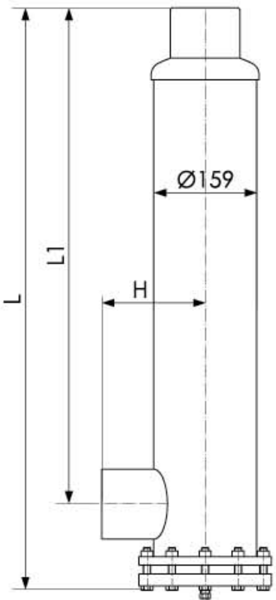
非标配零件
Non standard parts

型号 Model	芯数（个）Core-Quantity (Piece)	ODS接口铜管 ODS Conn. copper tube (inch)	对焊接口钢管 Butt-jointed steel tube (mm)	L (mm)	L1 (mm)	H (mm)	容积 Volume (l)	图例 Fig.
FE-485	1	5/8"	------	224	156	76	1.6	a
FE-487	1	7/8"	Ø25×2.5	234	163	86	1.6	a
FE-489	1	1-1/8"	Ø32×3.0	234	160	85	1.6	a
FE-4811	1	1-3/8"	Ø38×3.0	244	166	96	1.6	a
FE-4813	1	1-5/8"	Ø45×3.0	244	162	96	1.6	a
FE-4817	1	2-1/8"	Ø57×3.5	246	158	97	1.6	b
FE-4821	1	2-5/8"	Ø76×4.0	249	151	97	1.6	b
FE-4825	1	3"	Ø89×4.0	255	155	96	1.6	b
FE-967	2	7/8"	Ø25×2.5	379	308	86	2.9	a
FE-969	2	1-1/8"	Ø32×3.0	379	305	85	2.9	a
FE-9611	2	1-3/8"	Ø38×3.0	389	311	96	2.9	a
FE-9613	2	1-5/8"	Ø45×3.0	389	307	96	2.9	a
FE-9617	2	2-1/8"	Ø57×3.5	390	302	97	2.9	b
FE-9621	2	2-5/8"	Ø76×4.0	395	297	97	2.9	b
FE-9625	2	3"	Ø89×4.0	400	300	96	2.9	b
FE-1449	3	1-1/8"	Ø32×3.0	524	450	85	4.2	a
FE-14411	3	1-3/8"	Ø38×3.0	534	456	96	4.2	a
FE-14413	3	1-5/8"	Ø45×3.0	534	452	96	4.2	a
FE-14417	3	2-1/8"	Ø57×3.5	536	448	97	4.2	b
FE-14421	3	2-5/8"	Ø76×4.0	540	445	97	4.2	b
FE-14425	3	3"	Ø89×4.0	545	445	96	4.2	b
FE-19211	4	1-3/8"	Ø38×3.0	679	601	96	5.5	a
FE-19213	4	1-5/8"	Ø45×3.0	679	597	96	5.5	a
FE-19217	4	2-1/8"	Ø57×3.5	681	593	97	5.5	b
FE-19221	4	2-5/8"	Ø76×4.0	685	590	97	5.5	b
FE-19225	4	3"	Ø89×4.0	690	590	96	5.5	b

- 进出口设计为坚固的碳钢接口；
- 过滤器标准配制2个金属过滤网；
- 作为供液管过滤器使用时，安装FJ-100A固体干燥滤芯可以过滤系统内杂质、吸收水分和酸性物质；
- 作为吸气管过滤器使用时，为了减少压力降，建议拆掉2个金属过滤网。使用FRE-100纤维百褶滤芯或FRE-100W不锈钢滤芯，可有效的过滤掉系统内的杂质，避免脏物进入压缩机，延长压缩机的使用寿命；
- 通过高精度的法兰、组装式滤芯架和安装弹簧使更换滤芯变得非常容易；
- 装有测量压力降和充注用的检修口；
- 设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

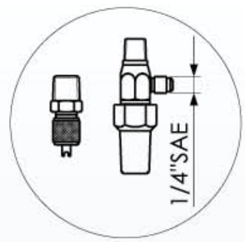


检修口1/4"-18NPT
the access hole
a



检修口1/4"-18NPT
the access hole
b

- The inlet and outlet are made by stable seamless steel pipe.
- The filter is standard assembled with 2 pieces of metal filter screens;
- When you use the filter in the liquid line, please use the filter core FJ-100A which can filter out the dirt in the system, and it also can absorb the water and acid materials;
- When you use the filter in the suction line, in order to reduce the pressure drop, we suggest that you should disassemble 2 pieces of metal filter screens. And you can use the filter core FRE-100 or FRE-100W which can filter out the dirt in the system, and it also can prevent the dirt to enter into the compressor for prolonging the service life;
- With the design of high-accuracy flange and modular filter core support and assembled spring, it is so easy for you to replace the filter core;
- There is a access hole for measuring the pressure drop and charging function;
- The design pressure: 2.9MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



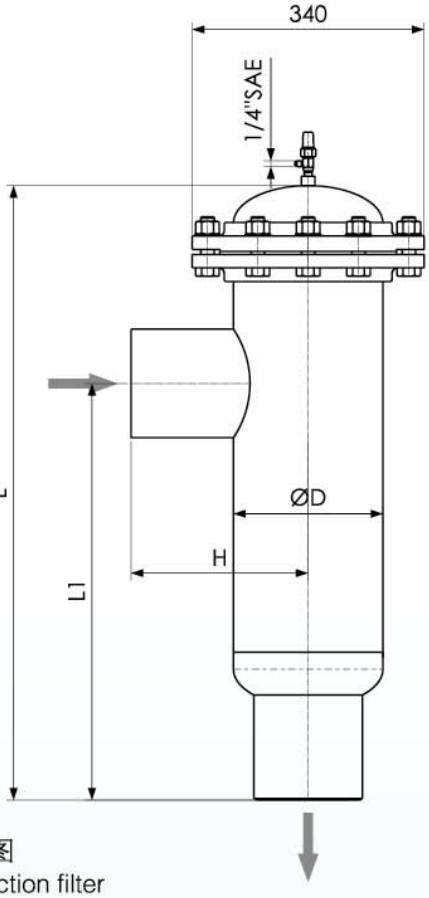
非标配零件
Non standard parts

型号 Model	芯数（个） Core-Quantity (Piece)	ODS接口铜管 (inch)	对焊接口钢管 （mm）	L （mm）	L1 （mm）	H （mm）	容积（l） Volume (l)	图例 Fig.
FEM-10021	1	2-5/8"	Ø76×4.0	376	259	125	5.0	a
FEM-10025	1	3"	Ø89×4.0	381	259	127	5.0	b
FEM-10034	1	---	Ø108×4.0	393	260	160	5.0	b
FEM-20017	2	2-1/8"	Ø57×3.5	534	424	124	8.0	a
FEM-20021	2	2-5/8"	Ø76×4.0	545	428	125	8.0	a
FEM-20025	2	3"	Ø89×4.0	550	428	127	8.0	b
FEM-20034	2	---	Ø108×4.0	562	429	160	8.0	b
FEM-30013	3	1-5/8"	Ø45×3.0	700	596	119	11.0	a
FEM-30017	3	2-1/8"	Ø57×3.5	703	594	124	11.0	a
FEM-40013	4	1-5/8"	Ø45×3.0	869	766	119	14.0	a
FEM-40017	4	2-1/8"	Ø57×3.5	872	763	124	14.0	a
FEM-40021	4	2-5/8"	Ø76×4.0	883	766	125	14.0	a
FEM-40025	4	3"	Ø89×4.0	888	766	127	14.0	b
FEM-40034	4	---	Ø108×4.0	900	767	160	14.0	b

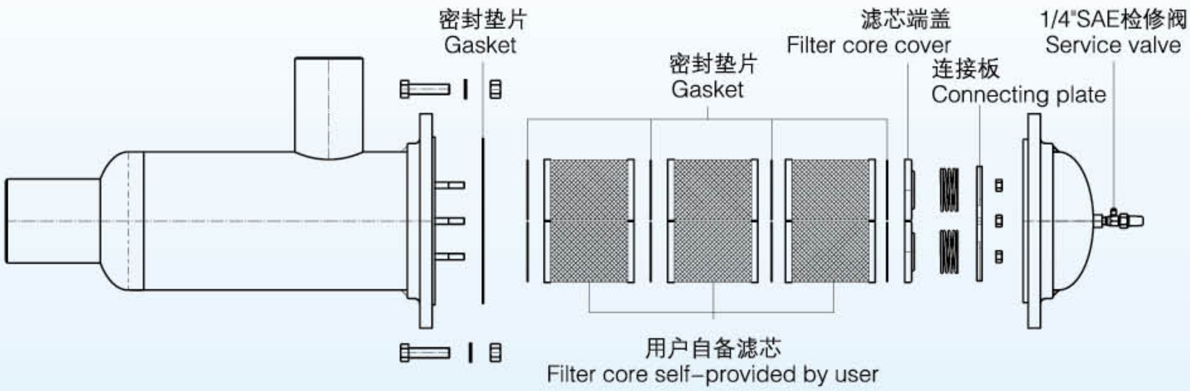
FEH 系列组合式吸气过滤器 FEH Series Combined Type Suction Filter

●专业用于大型制冷装置吸气管道过滤，可有效的过滤掉系统内的脏物；
●大筒体设计和超大的过滤面积，使压力降变得非常小；
●进出口接管为坚固无缝钢管；
●通过高精度的法兰、组装式滤芯架和安装弹簧使更换滤芯变得非常容易；
●滤芯可以安装 FRE-48 百褶式纤维吸气过滤芯和 FRE-48W 不锈钢丝网吸气过滤芯；
●壳体内壁镀锌，可有效的防止遇到水分时生锈；
●装有测量压力降和充注用的检修口；
●设计压力：1.7 MPa；
●适用制冷剂：R134a,R22,R407C,R404A,R507A。

● It can be professionally installed in the suction line of the large refrigeration equipment, and it can filter out the dirt in the system effectively;
● With the design of big shell body and oversized filtration area, it will cause so little of pressure drop;
● The inlet and outlet connection are made by stable seamless steel pipe;
● It is very easy to replace the filter core with the high accuracy flange, modular filter core support and installed spring;
● It can be fixed with FRE-48 pleated fibre filter core and FRE-48W stainless steel wire filter core for suction line;
● With the zinc plating on the internal surface of the shell body, it will prevent the rust against the water effectively ;
● There is an access hole with which can measure the pressure drop and charging-in function;
● Design pressure:1.7 MPa
● Applicable refrigerant: R134a,R22,R407C, R404A, R507A.



FEH组合式吸气过滤器内部结构图
Internal structure of FEH combined type suction filter



型号 Model	接口尺寸 Joint Size	芯数（个）Core-Quantity（Piece）	ØD (mm)	H (mm)	L (mm)	L1 (mm)	容积（l）Volume (l)
FEH-288-100	Ø108×4.0	6	219	260	599	355	15
FEH-288-125	Ø133×4.0	6	219	260	599	342	15
FEH-288-150	Ø159×4.0	6	219	260	614	344	15
FEH-432-100	Ø108×4.0	9	219	260	742	497	19
FEH-432-125	Ø133×4.0	9	219	260	742	465	19
FEH-576-150	Ø159×4.0	12	219	260	901	611	24

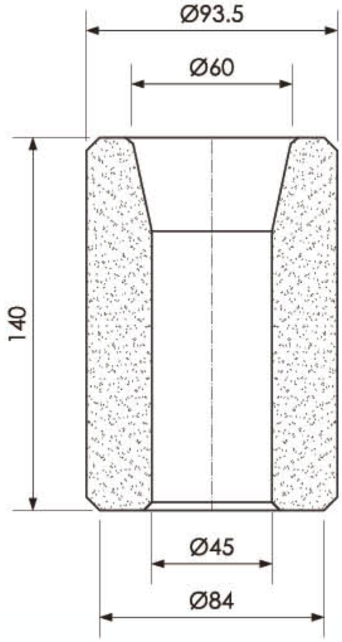
FJ-48H/FJ-100H

主要成分 Content：100%分子筛 100% Moolecular Sieve

应用范围 Application：R22, R134a, R404a, R507A, etc

性质 Character：

- 超强吸水能力 Super water capacity
- 与制冷溶剂油良好的相容性 Compatibility with the blend oil
- 有效地防止杂质 Effectively prevent the impurity
- 抗震动，压降小 Bear the vibration and low pressure drop



FJ-48

FJ-48A/FJ-100A

主要成分 Content：80%分子筛+20% Al2O3

80%Moolecular Sieve+20% Al2O3

应用范围 Application：R22、R134a、R404a、R207、R124、R125、R507A、R143a, R152a、R128、R23, etc

性质 Character：

- 强吸水能力 High water capacity
- 与制冷溶剂油良好的相容性 Compatibility with the blend oil
- 有效地防止杂质 Effectively prevent the impurity
- 去除系统内多余酸份 Adsorption of the acid
- 抗震动，压降小 Bear the vibration and low pressure drop

FJ-48C/FJ-100C

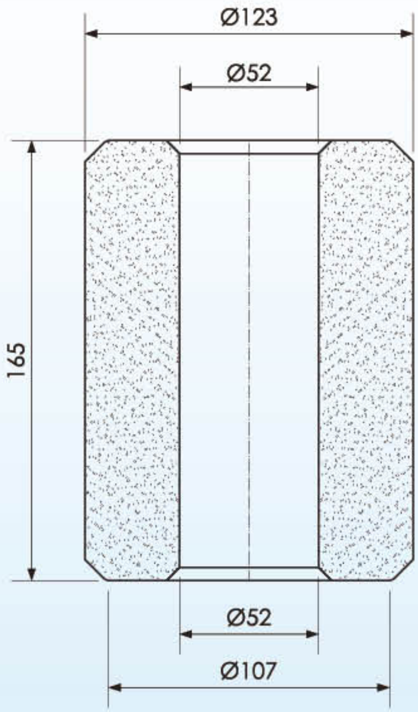
主要成分 Content：48%分子筛+47% Al2O3+5%C

48% Moolecular Sieve+47% Al2O3+5%C

应用范围 Application：R22、R134a、R404a、R507, etc

性质 Character：

- 超强酸吸收能力 Super acid capacity
- 标准吸水能力 Standard water Capacity
- 用于修复烧坏的压缩机 Special for “BURNED” system



FJ-100

FJ-48D/FJ-100D

主要成分 Content：100% Al2O3

应用范围 Application：R22、R32, etc

性质 Character：

- 标准吸水能力 Standard water Capacity
- 有效地防止杂质 Effectively prevent the impurity
- 去除系统内多余酸份 Adsorption of the acid
- 抗震动，压降小 Bear the vibration and low pressure drop

FRE 系列吸气过滤芯 FRE Series Core for Suction Filter

制冷系统在现场安装过程中，不可避免的进入一些脏物，在系统运行时如果不及时将这些脏物清理干净，会对这个系统特别是压缩机造成致命的伤害。因此我们向客户推荐在吸气管路进入压缩机前安装吸气过滤器。

●适用制冷剂：R134a,R22,R407C,R404A,R507A

●全新系统运行 200 小时内，建议使用百褶式纤维滤芯。使用时请注意观察过滤器进出口压力降，建议最大压降不得超过相当于饱和蒸发温度差 5℃；

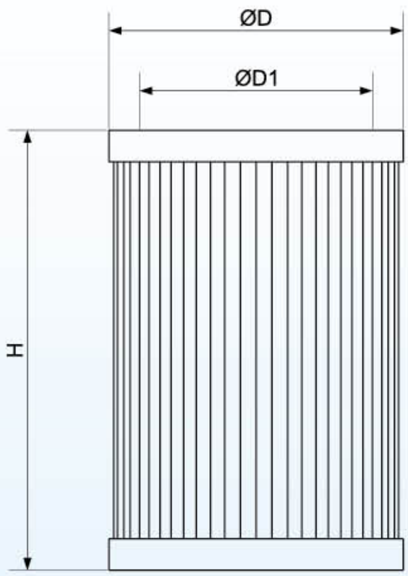
●系统运行超过 200 小时后，建议使用不锈钢丝网滤芯，使用时请注意观察过滤器进出口压力降，建议最大压降不得超过相当于饱和蒸发温度差 0.5℃。

During the installation process to the refrigeration system, it will be unavoidable to let the dirt enter into the system. If the dirt can not be cleaned out in time when the system is running, it would have made deadly damage to the system especially to the compressor. That is the reason why we recommend our customer to install the filter for suction line before it entering into the compressor.

● Applicable refrigerant: R134a,R22,R407C,R404A,R507A

● To the bran-new system, when it is running within 200 hours, we recommend to use pleated fibre filter core. During use it please be attention to observe the pressure drop between the inlet and outlet of the filter, we recommend that the maximum value of it can not be bigger than the value amount to the saturated evaporation temperature difference 0.5℃.

● To the system which is running more than 200 hours, we recommend to use stainless steel wire filter core. During use it please be attention to observe the pressure drop between the inlet and outlet of the filter, we recommend that the maximum value of it can not be bigger than the value amount to the saturated evaporation temperature difference 0.5℃.



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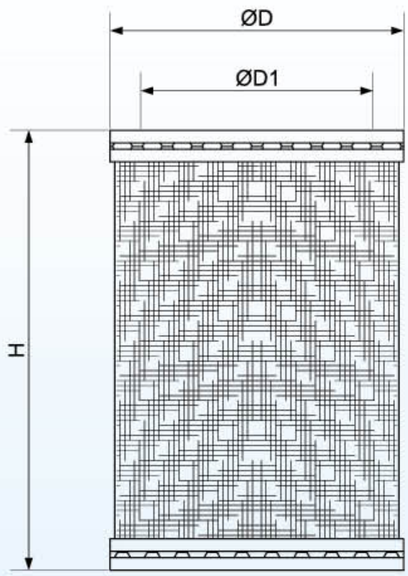

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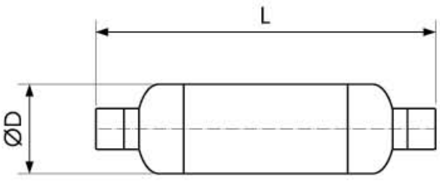
型号 Model	过滤材料 Filter Material	ØD (mm)	ØD1 (mm)	H (mm)	温度范围 Temperature Range (℃)	过滤精度 Filter Accuracy (μm)	图例 Fig.
FRE-48	百褶式纤维 Pleated fibre	94	70	140	-50℃ ~ +100℃	25	a
FRE-48W	不锈钢丝网 Stainless steel wire	94	74	140	-50℃ ~ +150℃	250	b
FRE-100	百褶式纤维 Pleated fibre	120	90	166	-50℃ ~ +100℃	25	a
FRE-100W	不锈钢丝网 Stainless steel wire	120	90	166	-50℃ ~ +150℃	250	b

活塞式和螺杆式压缩机工作过程中，压力的脉冲会进入排气管。通过连接的管路，脉冲振动会引起系统的噪音和震动，严重的会导致管道破裂。为了减少这些脉冲震动，建议在压缩机排气管上安装消声器。

- 安装在避震软管的后面；
- 设计压力：2.9MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

The pressure pulse will enter into the discharge line during the running process of the piston compressor and the screw compressor. The pulse will cause the system to shock and have noises through the connected lines, and even more serious it will damage the lines. In order to decrease the pulse shocking, it is recommended to install the discharge line muffler in discharge line of the compressor.

- To be installed next to the shock-proof hose;
- The design pressure: 2.9MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



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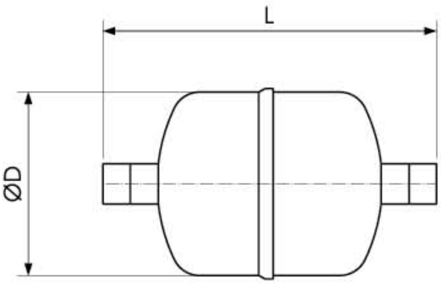

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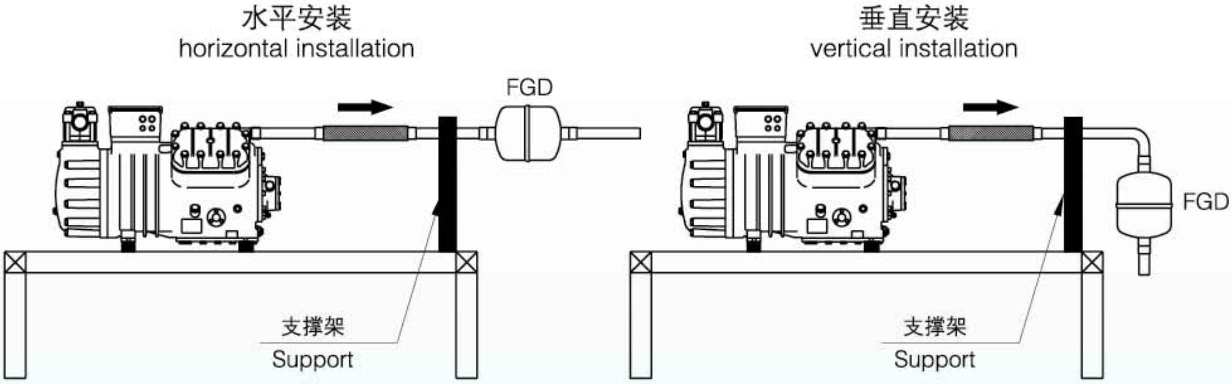


型号 Model	接口尺寸 Joint Size(Inch)	压缩机理论排气量 Theo.Compressor Displacement	ØD (mm)	L (mm)	容积 Volume(l)	图例 Fig.
FGD-05	5/8"	23	57	207	0.3	a
FGD-06	3/4"	30	57	205	0.3	a
FGDS-07	7/8"	42	57	217	0.3	a
FGD-07	7/8"	42	127	196	1.1	b
FGD-09	1-1/8"	74	127	212	1.1	b
FGDS-11	1-3/8"	110	127	222	1.1	b
FGD-11	1-3/8"	110	127	344	2.3	b
FGDS-13	1-5/8"	170	127	232	1.1	b
FGD-13	1-5/8"	170	127	353	2.6	b
FGDS-17	2-1/8"	290	127	246	1.1	b
FGD-17	2-1/8"	290	140	490	3.9	b

VRC型避震波纹金属软管由波纹管、接头、网套、压圈、紫铜接管组合焊接而成，用来避震的连接管，可以防止管路因高频震动引起的开裂，用于冷冻、冷藏和空气调节装置的压缩机吸排气管。

安装方式：采用ODF接口钎焊。

VRC型避震波纹金属软管采用具有优良弹性和吸震能力的不锈钢环形波纹管，提高了产品的吸震性能。

先将波纹管与不锈钢接头进行炉中钎焊，再装入不锈钢网套和不锈钢压圈，经扣压固定后，采用三位一体氩弧焊将接头、网套、压圈焊接牢固，然后将紫铜接管插入接头钎焊而成。

VRC型避震波纹金属软管具有安全、强度高、耐腐蚀、耐热，同时具有良好的吸震和补偿热位移、安装偏差和基础沉降及降低噪声等特点。

- ●适用制冷剂：HCFC/HFC
- ●适用介质温度：-40℃～+150℃
- ●最大耐压压力：最大工作压力的1.5倍

VRC type vibration resistant corrugated metal hose is welded assembly of corrugated metal hose, metal connector, braided metallic wire sleeve, metal clamping ring and copper tube. It is a kind of vibration resistant pipe to be used to prevent the piping from break caused by vibration. It can be used on the suction and exhaust piping of compressor in the refrigeration, cold storage and air conditioning unit.

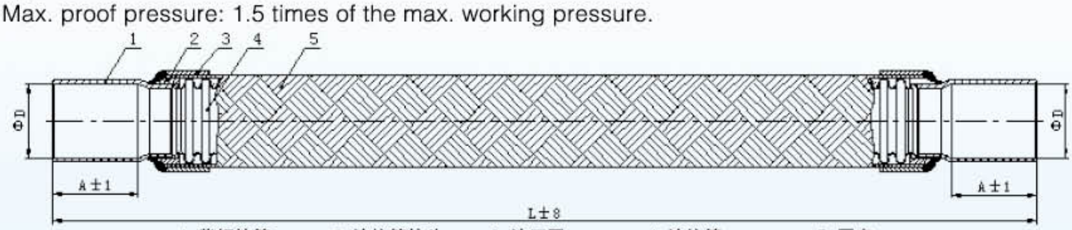
Installation method: ODF connection soldering is used.

VRC type vibration resistant corrugated metal hose improves the vibration damping ability as its stainless steel annularly corrugated hose has excellent elasticity and vibration damping ability.

Pressing the corrugated metal hose into stainless steel connector firstly, and weld them together by argon shielded arc welding. Then cover the stainless steel wire sleeve on it and clamp and fix it by the stainless steel clamping ring. Welding the metal connector, the braided metal wire sleeve and the metal clamping ring into one by argon shielded arc welding. Finally, pressing the copper tube into the metal connector and weld them together by argon shielded arc welding.

VRC type vibration resistant corrugated metal hose features safety, high mechanical strength, corrosion resistance and heat-resistant as well as low noise and perfect vibration resistant and good compensation for the heat displacement, installation deviation and foundation settlement.

- ●Applicative refrigerants: HCFC/HFC
- ●Applicative medium temperature: -40 C ~ +150 C
- ●Max. proof pressure: 1.5 times of the max. working pressure.



1. 紫铜接管 Copper tube
2. 波纹管接头 Jointment of corrugated pipe
3. 波压圈 Clamping ring
4. 波纹管 corrugated pipe
5. 网套 Metal net

型号 Model	规格 Size(inch)	外形尺寸 Outline size(mm)			最大工作压力 Max.working pressure (MPa)	最小弯曲半径 Min. Bending radius(mm)	
		A	L	D		静态 Static (Rj)	动态Dynamic (Rd)
VRC-03	3/8"	16	210	$9.7^{+0.15}_{0}$	4.2	80	180
VRC-04	1/2"	18	230	$12.8^{+0.2}_{0}$	4.2	95	215
VRC-05	5/8"	20	250	$16.1^{+0.2}_{0}$	4.2	120	270
VRC-06	3/4"	22	260	$19.1^{+0.2}_{0}$	4.2	145	325
VRC-07	7/8"	26	300	$22.3^{+0.2}_{0}$	4.2	160	360
VRC-08	1"	32	330	$25.6^{+0.2}_{0}$	4.2	175	400
VRC-09	1-1/8"	30	330	$28.7^{+0.2}_{0}$	4.2	175	400
VRC-10	1-1/4"	50	400	$32.1^{+0.2}_{0}$	3.5	225	510
VRC-11	1-3/8"	35	400	$35.2^{+0.2}_{0}$	3.5	225	510
VRC-13	1-5/8"	42	400	$41.5^{+0.2}_{0}$	2.5	280	640
VRC-17	2-1/8"	65	520	$54.2^{+0.25}_{0}$	2.5	350	800
VRC-21	2-5/8"	75	610	$66.8^{+0.25}_{0}$	2.0	390	840

油分离器选型提示

1、当压缩机运行时，雾状的油和制冷剂一起被压缩机排出，少量的油在系统内循环不会影响系统的性能，然而过多的油进入系统后，会对流量控制元件产生影响，同时也会影响到蒸发器和冷凝器的能效。
2、任何形式的油分离器分油率都不是100%，为了确保压缩机正常工作，一定要规范制冷系统管路的设计和安装。
3、虽然样本中给出了油分离器的制冷能力，但压缩机实际的制冷量在不同的工况下变化范围很大，在选择油分离器的时候一定要考虑压缩机在实际使用过程中可能达到的最高蒸发温度（建议要附加15%以上的余量）。
4、一定要保证系统的过热度，当压缩机出现湿压缩时油分离器会失效。
5、在环境温度低的地方，油分离器筒体必须保温,以便在压缩机停机期间能保持一定的热量。否则在压缩机启动时油分离器会起到一个预冷凝器的作用。如果发生这种情况，油分离器会将冷凝的制冷剂液体送回压缩机曲轴箱内，引起液击。
6、如果想检查油分离器回油功能是否正常，建议在回油管上安装一个视液镜来观察回油情况。

Model Selection of Oil Separator Presentation

1、During the compressor running process, the oil and refrigerant in foggy status is discharged by compressor, a little oil in the system circulation will not affect the function of the system, but if there had so much oil enter into the system, it will cause some impact to the flow control element, and at the meantime it will also affect the efficiency of the evaporator and condenser.
2、The oil separation rate of any kind oil separator will not reach 100%. In order to make sure the compressor work normally, please do normalize the design and installation of the refrigeration system line.
3、Although we supplied the refrigerating capacity of our oil separators in this catalogue book, the refrigerating capacity of the compressor will be changed a lot in different running condition. So when you select the oil separator, please do think about the compressor's max. evaporating temperature which can be reached during the actual running process(we suggest to add more than 15% margin).
4、Please do make sure the overheat of the system. When the compressor has wet compression, the oil separator will be fail to work.
5、If you used the oil separator in the place where the enviroment temperature is low, please do performe insulation protection to it, and this can make sure there will be amount of heat during the period which the compressor does not work. Otherwise, the oil sepatator will functioning as a Pre-condenser. If this happened, the oil separator will send back the condensed refrigerant to compressor crankcase and then it will lead to slugging.
6、If you would like to check the oil return function of the oil separator, we suggest to assemble the sight glass to the oil return line to observe it.

制冷范围划分
Refrigeration range partitioning

- 高温范围（H）–蒸发温度（t_0）+5℃
- High temperature range (H) – Evaporating temperature（t_0） +5℃

- 中温范围（M）–蒸发温度（t_0）–10℃
- Medium temperature range (M) – Evaporating temperature（t_0） –10℃

- 低温范围（L）–蒸发温度（t_0）–25℃
- Low temperature range (L) – Evaporating temperature（t_0） –25℃

- 超低温范围（Z）–蒸发温度（t_0）–40℃
- Ultra-low temperature range (Z) – Evaporating temperature（t_0） –40℃

警告：冷凝温度变化会影响油分离器的制冷能力

油分离器选型案例（以下为某台压缩机的最高运行工况）

已知参数：

制冷剂：R507A

蒸发温度：5℃

冷凝温度：30℃

制冷量：100kW

冷凝温度修正系数：

制冷剂	蒸发温度	冷凝温度℃										
	℃	10	15	20	25	30	35	40	45	50	55	60
R22	−40	0.57	0.63	0.70	0.77	0.85	0.92	1.00	1.08	1.15	1.22	1.29
	−25	0.56	0.63	0.70	0.77	0.85	0.92	1.00	1.08	1.16	1.23	1.31
	−10	0.56	0.62	0.69	0.77	0.84	0.92	1.00	1.08	1.16	1.24	1.32
	5	0.56	0.62	0.69	0.76	0.84	0.92	1.00	1.08	1.17	1.25	1.33
R404A/R507A	−40	0.67	0.73	0.79	0.85	0.91	0.96	1.00	1.03	1.04	1.04	1.00
	−25	0.65	0.71	0.78	0.84	0.90	0.95	1.00	1.04	1.07	1.07	1.06
	−10	0.64	0.70	0.76	0.83	0.89	0.95	1.00	1.05	1.08	1.10	1.10
	5	0.62	0.69	0.75	0.82	0.88	0.94	1.00	1.05	1.10	1.13	1.14

选型计算：

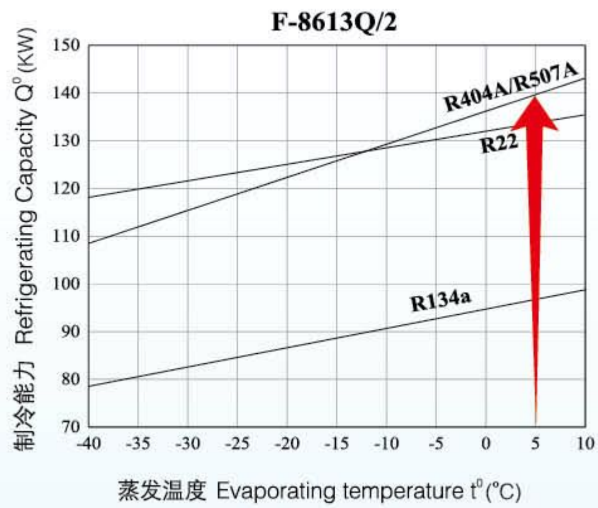
油分离器修正系数 =0.88

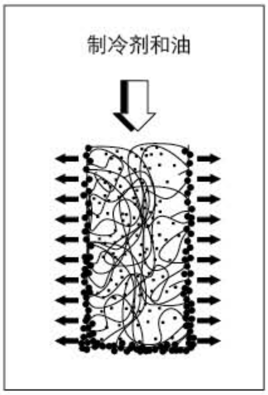
100kW ÷ 0.88 ≈ 113.6kW

注：建议另加 15% 的余量

113.6 × 1.15=130.64kW

油分离器选取 F-8613Q/2



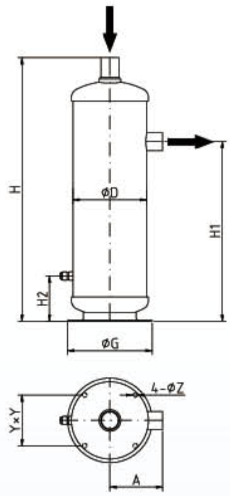


从压缩机输出的带有悬浮油颗粒的气态制冷剂进入到油分离器中，气态制冷剂携带的油经过进口金属丝网的拦截，油颗粒之间相互撞击、聚集形成较重的油颗粒，这些较重的油颗粒最终撞击在油分离器的内部挡板和筒壁上，此处具有最终分离作用。被分离出来的油滴落到油分离器的底部，并通过此处安装的浮球式针阀将油返回到压缩机曲轴箱或储油器中。

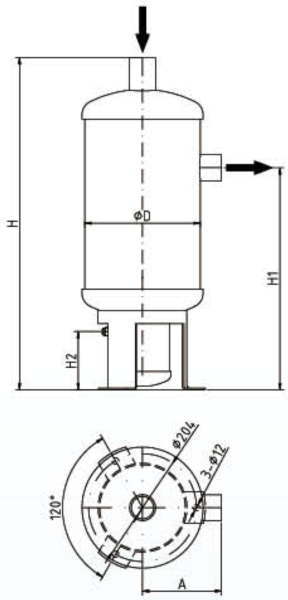
- 设计压力：2.9 MPa；
- 适用制冷剂：R134a,R22,R407C,R404A,R507A；

The refrigerant gas containing oil in aerosol form exported from the compressor enters into the oil separator. The oil contained in the refrigerant gas is intercepted when it passes through the inlet metal web, and then the oil particles collide with one another and form heavier oil particles. The heavier oil particles hit on the inside baffle and shell body of the oil separator where it has final separation effect . Be isolated droplets dropped into the bottom of the oil separator where a float operated needle valve returns the oil back to the crankcase of compressor or back to the oil reservoir.

- The design pressure: 2.9 MPa
- Applicable refrigerant: R134a,R22,R407C,R404A,R507A;



a



b

型号 Model	接口尺寸 Joint Size (Inch)	ØD (mm)	H (mm)	H1 (mm)	H2 (mm)	A (mm)	Y (mm)	ØG (mm)	ØZ (mm)	油出口 Oil Outlet (SAE)	初始注油量 First Oil Charge (l)	容积 Volume (l)	图例 Fig.
F-5600N	3/8"	102	266	174	106	73	86	140	8.5	3/8"	0.5	1.6	a
F-5601N	1/2"	102	267	174	106	75	86	140	8.5	3/8"	0.5	1.6	a
F-5602N	5/8"	102	342	239	106	78	86	140	8.5	3/8"	0.5	2.1	a
F-5603C	7/8"	102	400	279	106	81	86	140	8.5	3/8"	0.5	2.5	a
F-5603	7/8"	140	424	293	86	100	96	160	9.0	3/8"	0.9	5.0	a
F-5604	1–1/8"	140	499	340	86	100	96	160	9.0	3/8"	0.9	6.0	a
F-5604P	1–1/8"	165	548	376	94	113	120	190	9.0	3/8"	1.2	9.0	a
F-5605	1–3/8"	140	499	336	86	108	96	160	9.0	3/8"	0.9	6.0	a
F-5605P	1–3/8"	165	553	376	94	116	120	190	9.0	3/8"	1.2	9.0	a
F-5605B	1–3/8"	219	617	410	88	143	–	–	12	3/8"	0.9	15.0	b
F-5606	1–5/8"	165	558	376	94	123	120	190	9.0	3/8"	1.2	9.0	a
F-5606P	1–5/8"	219	617	410	88	150	–	–	12	3/8"	0.9	15.0	b
F-5607	2–1/8"	165	558	370	94	128	120	190	9.0	3/8"	1.2	9.0	a
F-5607P	2–1/8"	219	616	410	88	155	–	–	12	3/8"	0.9	15.0	b

★ 油分离器第一次安装时，需要向油分离器内充注与压缩机相同牌号的润滑油，充注量参照上面表格中给出的"初始注油量"。

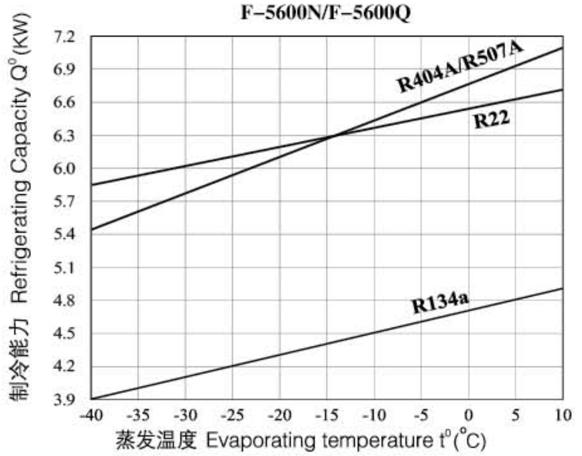
★ When you use the oil separator for the first time, please fill the lubricating oil with the same trademark as it is in the compressor into the oil separator, and the oil charging volume please take the numbers marked in the above form as your reference.

F-56 系列油分离器制冷能力表

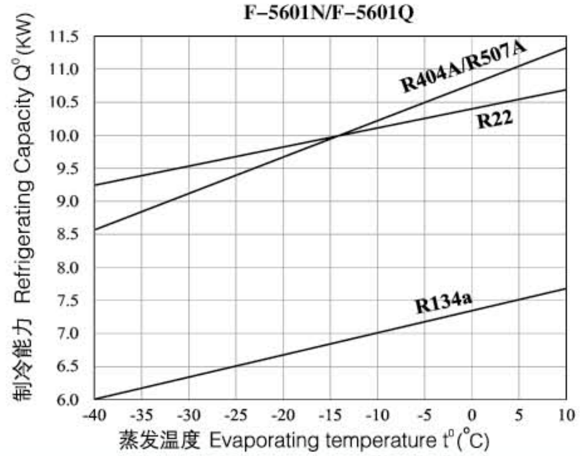
F−56 Series Oil Separator Refrigerating Capacity Table

（表一）

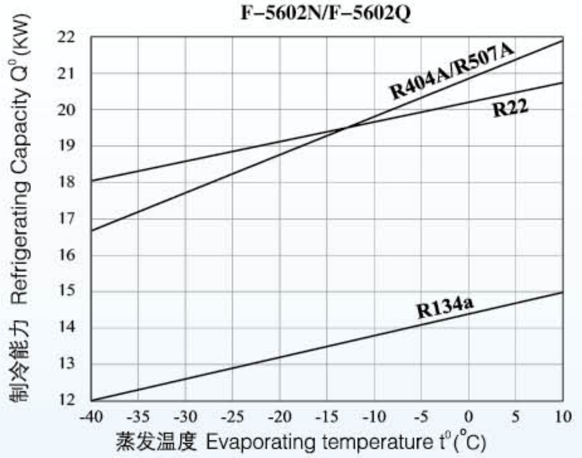
F-5600N/F-5600Q



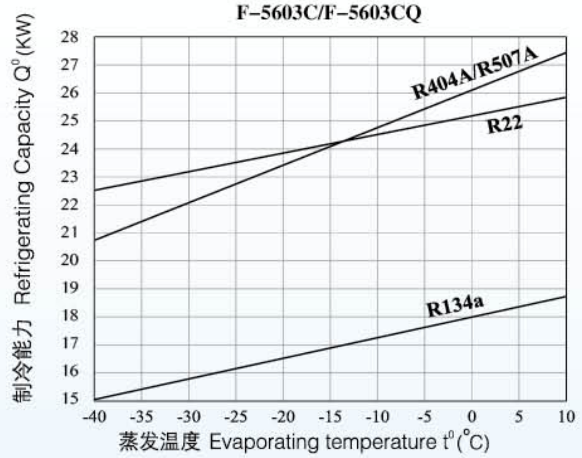
F-5601N/F-5601Q



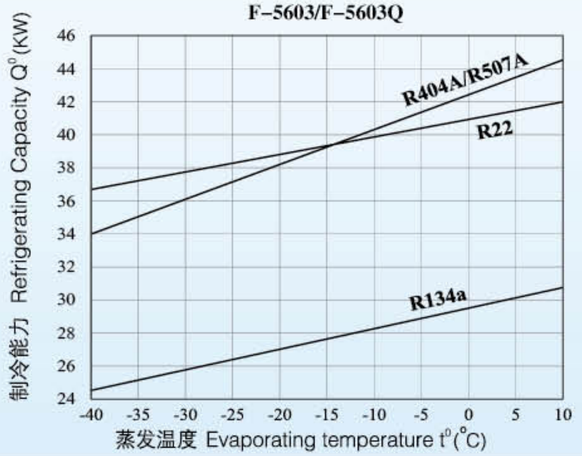
F-5602N/F-5602Q



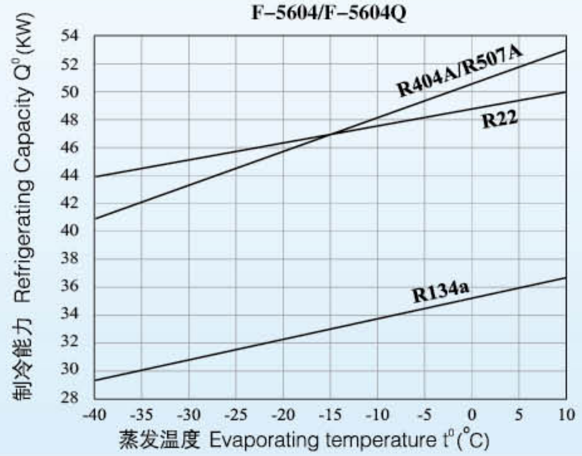
F-5603C/F-5603CQ



F-5603/F-5603Q



F-5604/F-5604Q



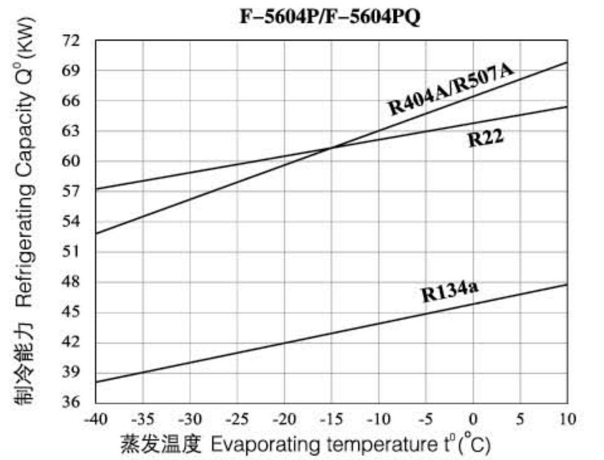
上述数据基于：冷凝温度+40℃，排气温度+80℃。

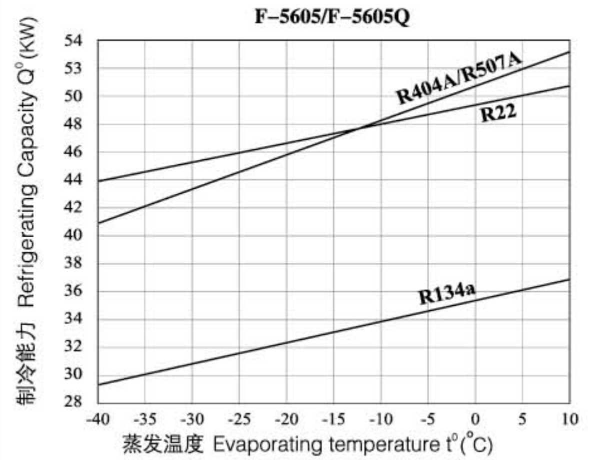
Based on the above date: condensing temperature+40℃, exhaust temperature+80℃。

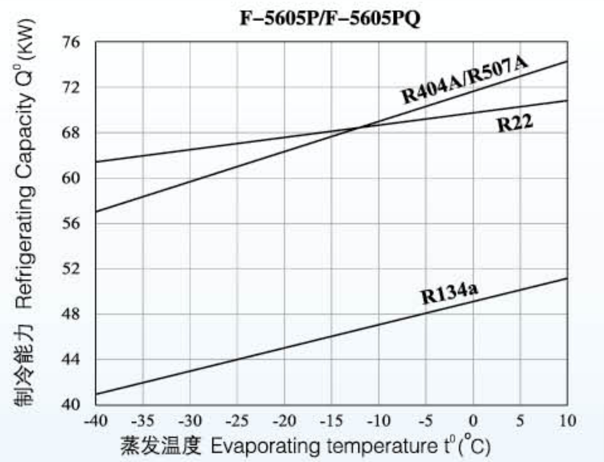
F-56 系列油分离器制冷能力表

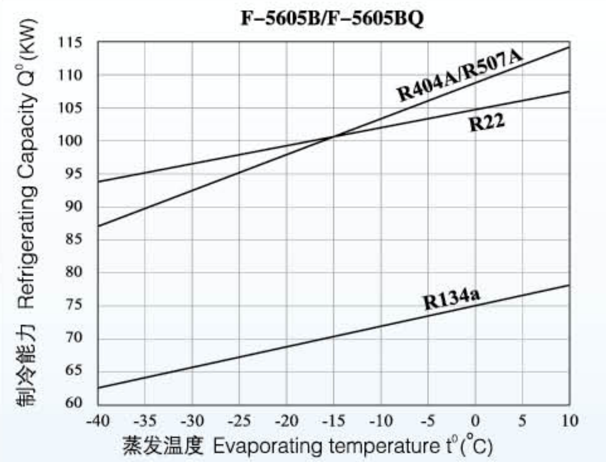
F-56 Series Oil Separator Refrigerating Capacity Table

（表二）









上述数据基于：冷凝温度+40℃，排气温度+80℃。

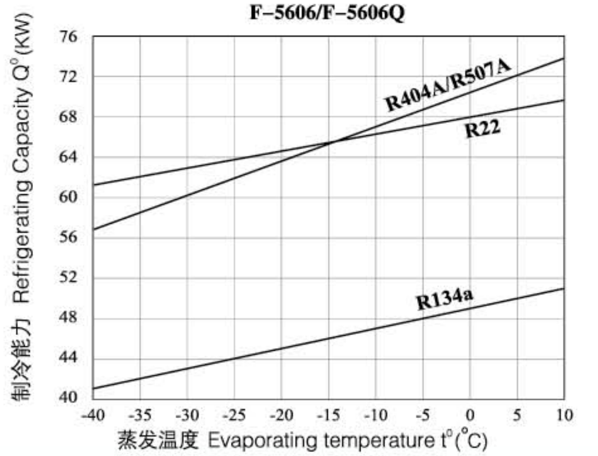
Based on the above date: condensing temperature+40℃, exhaust temperature+80℃。

F-56 系列油分离器制冷能力表

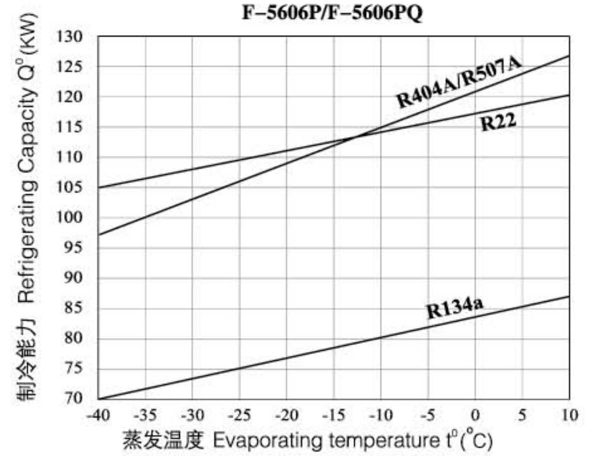
F−56 Series Oil Separator Refrigerating Capacity Table

（表三）

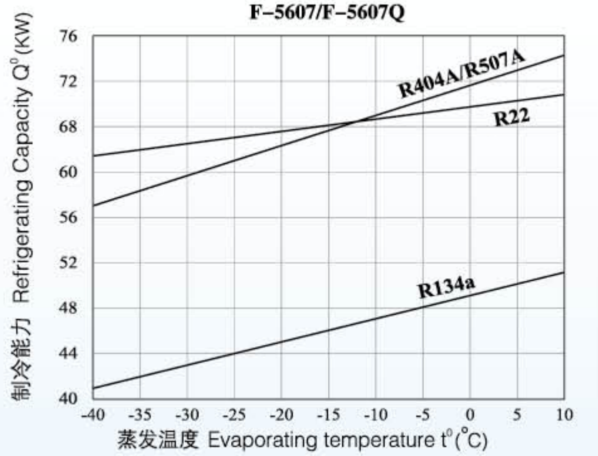
F-5606/F-5606Q



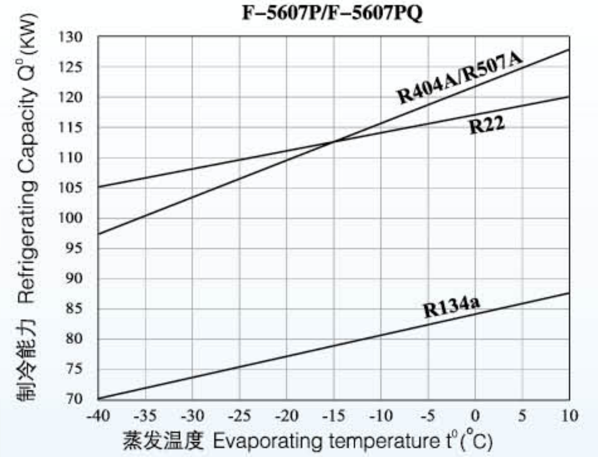
F-5606P/F-5606PQ



F-5607/F-5607Q

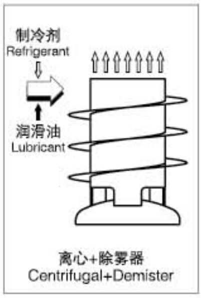


F-5607P/F-5607PQ



上述数据基于：冷凝温度+40℃，排气温度+80℃。

Based on the above date: condensing temperature+40℃, exhaust temperature+80℃。

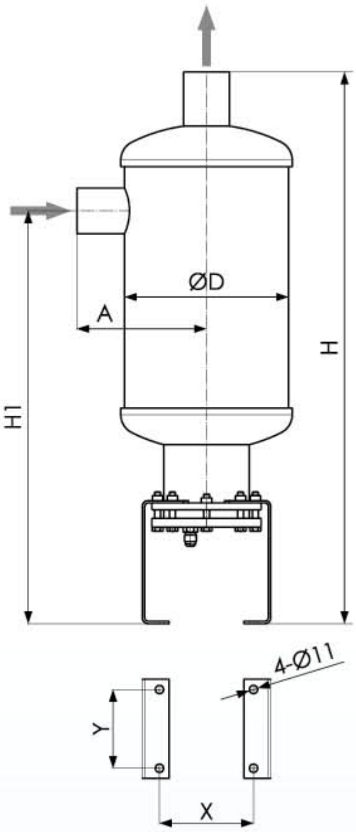


F-66SG系列螺旋式油分离器以其离心式分离的特点，可在引起最小压降的情形下达到非常好的分油效果。

油分离器内部安装了一个用不锈钢丝编织成的除雾器。从而形成了一道捕获雾状油的屏障。这道屏障使雾状油变得紊乱，从而使得它们彼此相互碰撞、聚集，并且吸附在除雾器上变成油滴，最后靠重力作用到达油分离器底部的油收集区。

油分离器底部有一个法兰，可以非常方便的清洗进入油分离器的脏物。法兰上装有一块永磁铁，它可以吸附进入油分离器中的铁屑。

- 设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。



F-66SG series helical oil separator features a centrifugal flow path achieving very good oil separation effect with lowest pressure drop.

Inside of the oil separator there is a demister which is knitted by stainless steel wire. So it engender a barrier to capture the oil in fog form. This barrier make the oil in fog form chaotic and they collide and get together with each other, and then they will be adsorbed by the demister and final become oil drop. The oil drop will fall into the oil collection area at the bottom of the oil separator by gravity action.

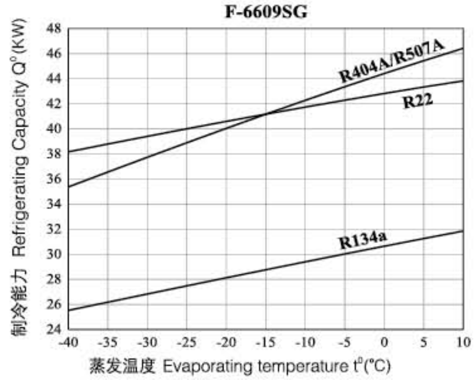
It has a flange on the bottom, so it is quite convenient to clean the drughill inside of it, And there is a piece of permanent magnet on the flange with which can adsorb the scrap iron entered into the oil separator.

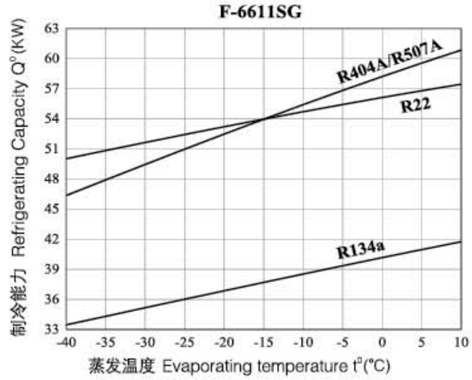
- The design pressure: 2.9MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.

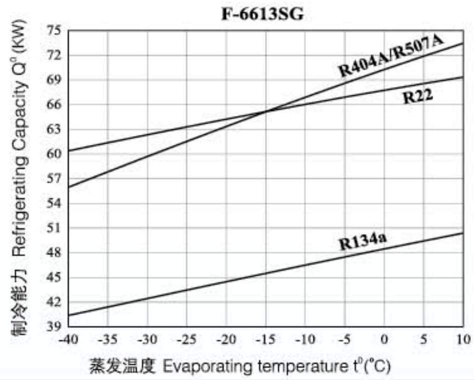
型号 Model	接口尺寸 Joint Size (Inch)	ØD (mm)	H (mm)	H1 (mm)	A (mm)	X (mm)	Y (mm)	油出口 Oil Outlet (SAE)	初始注油量 First Oil Charge (l)	容积 Volume (l)
F-6609SG	1-1/8"	165	611	471	123	126	105	3/8"	0.5	6.0
F-6611SG	1-3/8"	165	641	492	128	126	105	3/8"	0.5	6.5
F-6613SG	1-5/8"	165	673	515	138	126	105	3/8"	0.5	7.0
F-6617SG	2-1/8"	219	735	550	173	126	105	3/8"	0.5	14.0
F-6621SG	2-5/8"	219	779	584	190	126	105	3/8"	0.5	15.5
F-6625SG	3"	273	795	563	227	194	105	3/8"	0.5	23.0

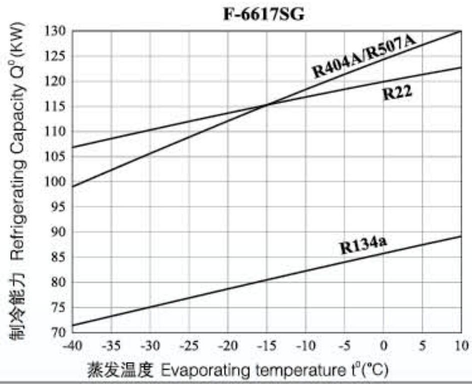
★ 油分离器第一次安装时，需要向油分离器内充注与压缩机相同牌号的润滑油，充注量参照上面表格中给出的“初始注油量”。

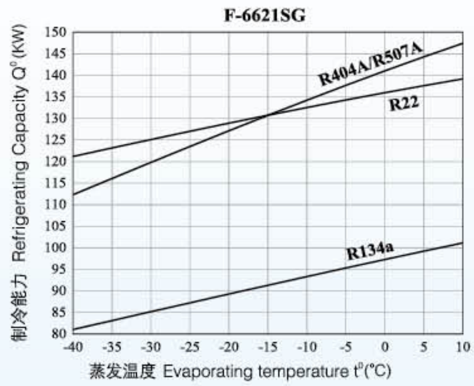
★ When you use the oil separator for the first time, please fill the lubricating oil with the same trademark as it is in the compressor into the oil separator, and the oil charging volume please take the numbers marked in the above form as your reference.

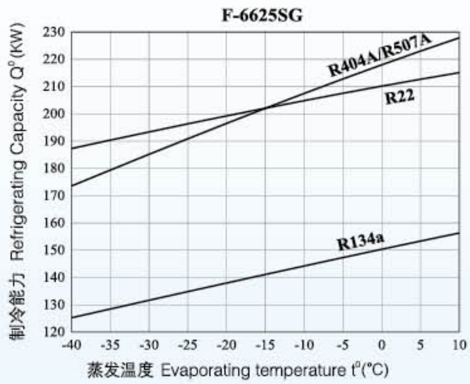






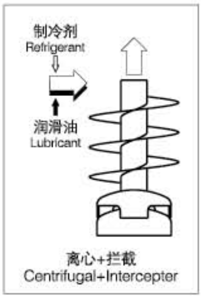






上述数据基于：冷凝温度+40℃，排气温度+80℃。

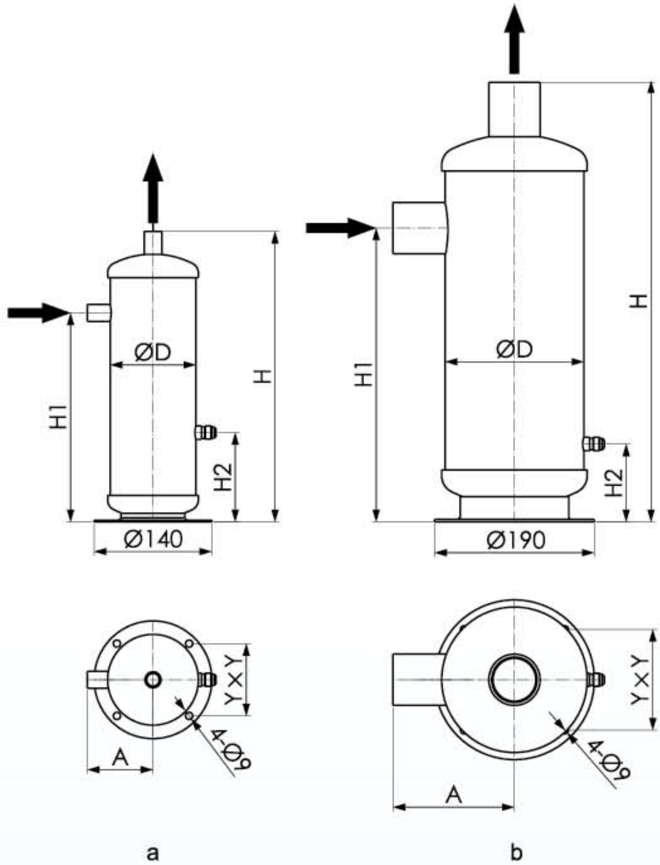
Based on the above date: condensing temperature+40℃, exhaust temperature+80℃。



F-66系列螺旋式油分离器以其离心式分离的特点，可在引起最小压降的情形下达到非常好的分油效果。

从压缩机输出的带有悬浮油颗粒的气态制冷剂进入到油分离器中，带有悬浮油颗粒的气态制冷剂与螺旋式导流板相接触，并且沿导流板旋转流动。油颗粒在离心力的作用下，被分离到螺旋式导流板的边缘处和油分离器的桶壁上，在这里被分离出来的油颗粒聚集成较大的油滴流入油分离器底部的油收集区。我们在螺旋式导流板的下部设计了一个碟状导流罩，它可有效的防止被分离出来的油滴再次飞散。导流罩下面又设计了一个碟状反射屏，反射屏的独特设计使得油收集区域被独立分隔出来，它可以防止油分离器内流速过高时油收集区域内的油被带走。

- 设计压力：2.9MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。



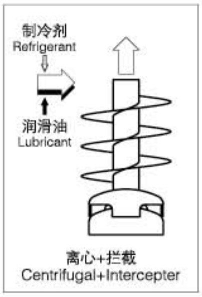
F-66 Series Helical Oil Separator features a centrifugal flow path achieving very perfect separation effect with lowest pressure drop.

The refrigerant in gaseous exported from compressor which contains floating oil particles contacts with the helix guide plate, and then it flows along the guide plate reelingly. The oil particles will be separated onto the helix guide plate and the shell body of oil separator by the centrifugal force. The separated oil particles get together and become the heavier ones and then drop to the oil collection area at the bottom of oil separator. There is an acetabuliform guide cover to the helix guide plate with which can effectively prevent the separated oil flyoff again. At the bottom of the guide cover there is an acetabuliform reflecting screen. With this special design of the reflecting screen it isolates the oil collection area independently, so it prevents the oil in the oil collection area being taken away when the flow rate inside is high.

- The design pressure：2.9MPa;
- Applicative refrigerants：R134a、R22、R407C、R404A、R507A.

型号 Model	接口尺寸 Joint Size (Inch)	ØD (mm)	H (mm)	H1 (mm)	H2 (mm)	A (mm)	Y (mm)	油出口 Oil Outlet (SAE)	初始注油量 First Oil Charge (l)	容积 Volume (l)	图例 Fig.
F-6604	1/2"	102	344	249	106	75	86	3/8"	0.5	2.2	a
F-6605	5/8"	102	346	249	106	78	86	3/8"	0.5	2.2	a
F-6607	7/8"	102	399	290	106	81	86	3/8"	0.5	2.5	a
F-6609	1-1/8"	165	446	299	93	128	120	3/8"	1.2	7.0	b
F-6611	1-3/8"	165	446	299	93	128	120	3/8"	1.2	7.0	b
F-6613	1-5/8"	165	456	299	93	138	120	3/8"	1.2	7.0	b
F-6617	2-1/8"	165	523	350	93	145	120	3/8"	1.2	8.2	b

F-66Q系列储油式油分离器 F-66Q Series Oil-stored Type Oil Separator



F-66Q系列储油式油分离器以其离心式分离的特点，可在引起最小压降的情形下达到非常好的分油效果。

F-66Q系列储油式油分离器是针对安装电子油位控制器的并联式压缩机机组设计的。它可以将分离出来的润滑油储存在下部的储油段内。依靠油分离器和压缩机曲轴箱之间的压力差，通过电子油位控制器将润滑油直接输送到每一台压缩机曲轴箱。新升级产品增设3/8"-18NPT注油口，方便充注润滑油。

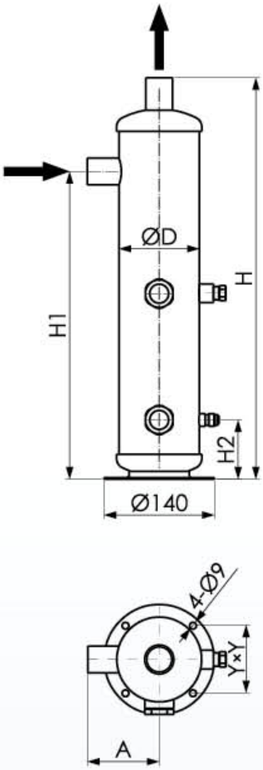
- 设计压力：2.9MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

F-66Q Series Oil-stored Oil Separator features a centrifugal flow path achieving very perfect separation effect with lowest pressure drop.

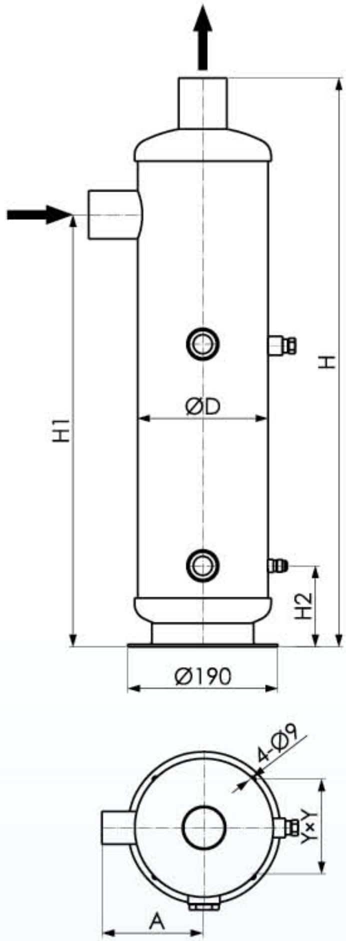
F-66Q Series Oil-stored Oil Separator is special designed for the parallel compressor unit which assembled with electronic oil level regulator. It can store the separated lubricant in the oil-stored area at the bottom. Dependent on the pressure difference between the oil separator and crankcase of the compressor, and through by the electronic oil level regulator it can directly transport the lubricant to each compressor.

New upgraded products add 3/8"-18NPT oil injection port to facilitate the filling of lubricants.

- The desigh pressure：2.9MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



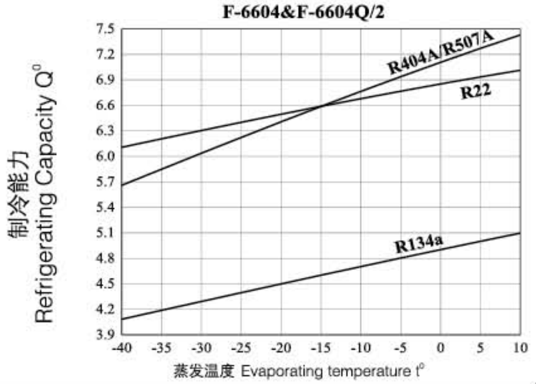
a



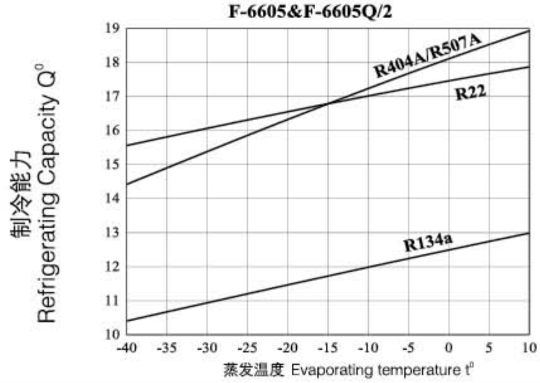
b

型号 Model	接口尺寸 Joint Size (Inch)	ØD (mm)	H (mm)	H1 (mm)	H2 (mm)	A (mm)	Y (mm)	油出口 Oil Outlet (SAE)	油容积 Oil Volume (l)	总容积 Total Volume (l)	图例 Fig.
F-6604Q/2	1/2"	102	496	403	74	75	86	3/8"	2.0	3.3	a
F-6605Q/2	5/8"	102	496	403	74	78	86	3/8"	2.0	3.3	a
F-6607Q/2	7/8"	102	550	441	74	81	86	3/8"	2.0	3.6	a
F-6609Q/2	1-1/8"	165	689	542	103	128	120	3/8"	7.0	11.7	b
F-6611Q/2	1-3/8"	165	689	542	103	128	120	3/8"	7.0	11.7	b
F-6613Q/2	1-5/8"	165	699	542	103	138	120	3/8"	7.0	11.7	b
F-6617Q/2	2-1/8"	165	765	592	103	145	120	3/8"	7.0	13.0	b

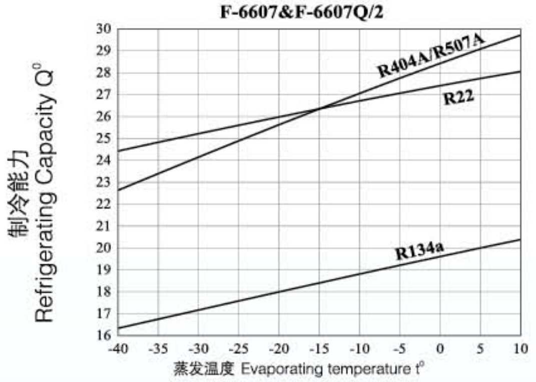
F-6604&F-6604Q/2



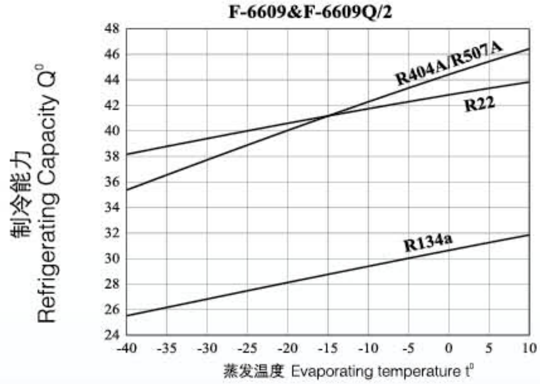
F-6605&F-6605Q/2



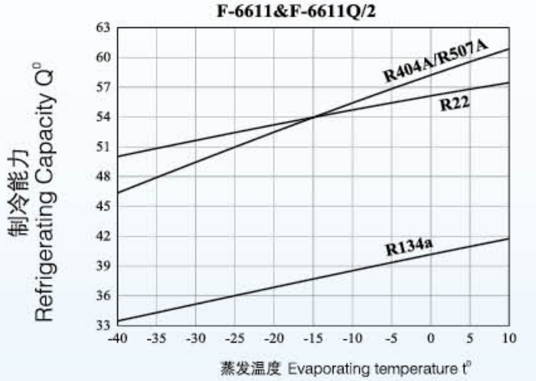
F-6607&F-6607Q/2



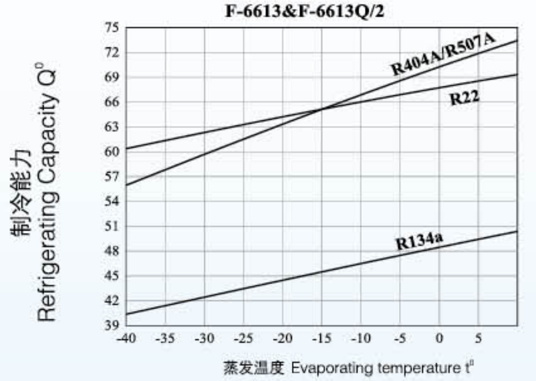
F-6609&F-6609Q/2



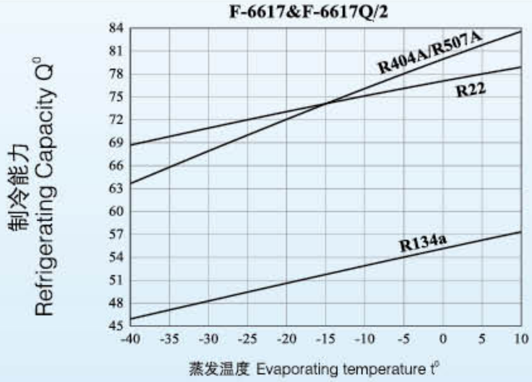
F-6611&F-6611Q/2



F-6613&F-6613Q/2



F-6617&F-6617Q/2



上述数据基于：R22/R407C，冷凝温度+40℃， 使用R404A / R507（R22数值×0.85），使用R134a（R22数值×0.75）

Based on the above date: R22/R407C/R404A, condensing temperature +40℃, used R404A/R507 (R22dete× ×0.85), used R134a (R22dete×0.75).

F-86Q系列储油式油分离器 F-86Q Series Oil-stored type Oil Separator

F-86Q系列储油式油分离器以其离心式分离的特点，可在引起最小压降的情形下达到非常好的分油效果。

F-86Q系列储油式油分离器用于高压回油的并联式压缩机组。它可以将分离出来的润滑油储存在下部的储油段内。依靠油分离器和压缩机曲轴箱之间的压力差，通过油位控制系统将润滑油输送到每一台压缩机。

油分离器下部有一个储油段，储油段上有一个高位视油镜和一个低位视油镜，标准油位应该在高位视油镜的1/2以下和低位视油镜1/2以上的区间内。新升级产品增设3/8"-18NPT注油口，方便充注润滑油。

- 设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

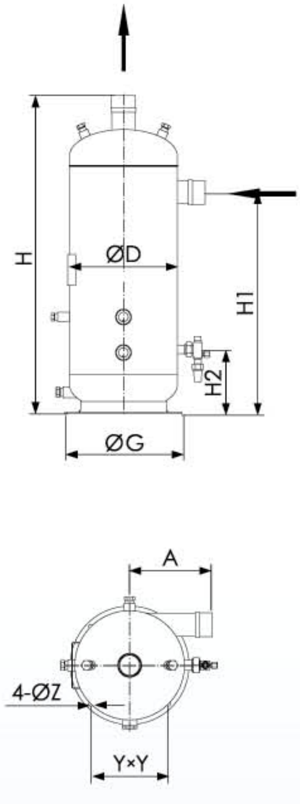
F-86Q Series Oil-stored type Oil Separator features a centrifugal flow path achieving very good oil separation effect with lowest pressure drop.

F-86Q Series Oil-stored type Oil Separator is specially designed for the parallel compressor unit who with the high pressure oil return. It can store the separated lubricant in the oil-stored area at the bottom. Dependent on the pressure difference between the oil separator and the crankcase of the compressor, and with the work of the electronic oil level regulator it can directly transport the lubricant to each crankcase of the compressor.

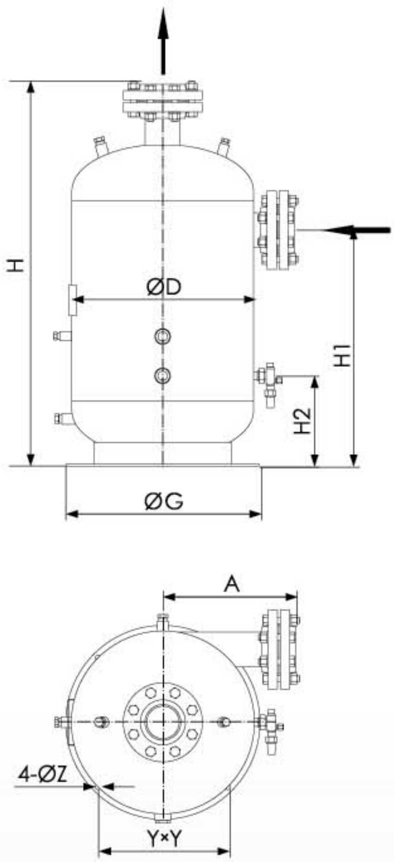
There is an oil-stored area at the bottom of the oil separator. And at this oil-stored area, there are a high-level oil sight glass and a low-level oil sight glass. The standard oil level shall be lower than 1/2 position of the high-level oil sight glass and higher than 1/2 position of the low-level oil sight glass.

New upgraded products add 3/8"-18NPT oil injection port to facilitate the filling of lubricants.

- The design pressure: 2.9MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



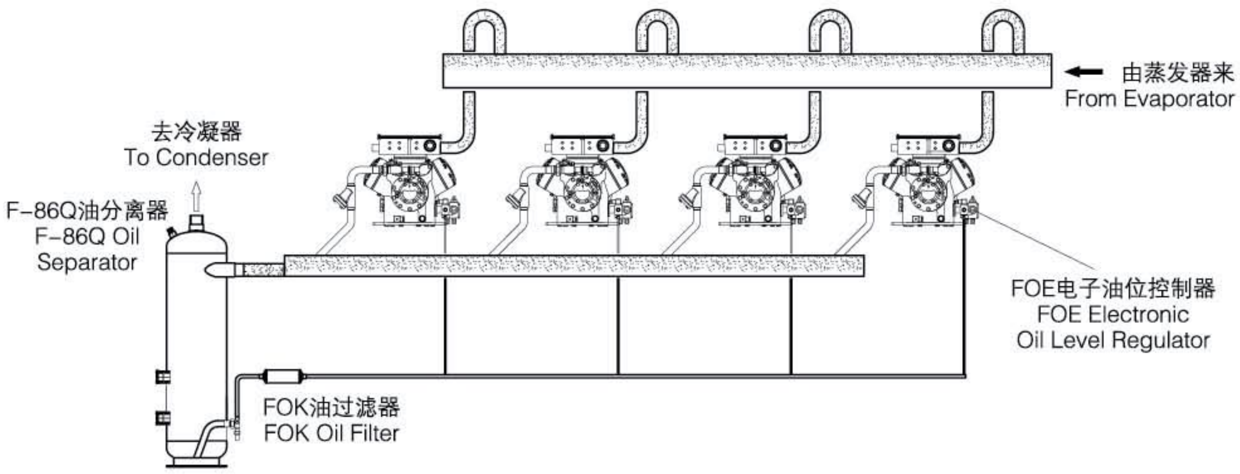
a



b

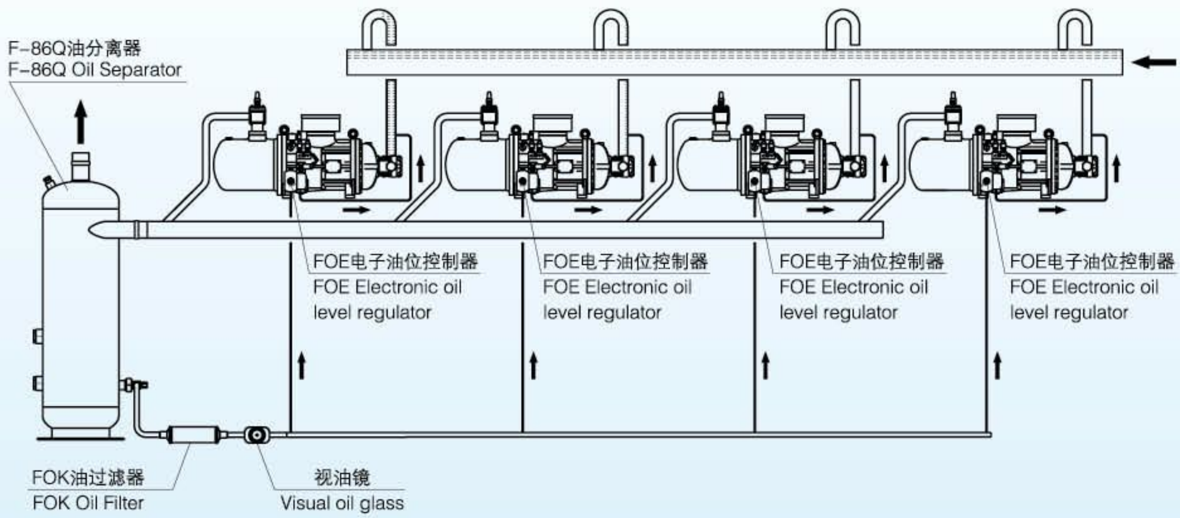
型号 Model	接口尺寸 Joint Size (Inch)	ØD (mm)	H (mm)	H1 (mm)	H2 (mm)	A (mm)	Y (mm)	G (mm)	ØZ (mm)	出油口 Oil Outlet (Inch)	V1 油容积 Oil Volume (l)	总容积 Total Volume (l)	图例 Fig.
F-8613Q/2	1-5/8"	219	732	510	148	191	155	250	12	3/8"	4.3	20	a
F-8617Q/2	2-1/8"	273	805	560	163	206	193	296	12	3/8"	6.4	36	a
F-8621Q/2	2-5/8"	325	947	652	183	258	230	350	13	1/2"	10.4	59	a
F-8625Q/2	3-1/8"	377	991	672	213	280	267	410	13	1/2"	14.9	79	a
F-86065Q/2	DN65	412	946	620	207	326	290	440	14	5/8"	19.0	91	b
F-86080Q/2	DN80	462	969	602	228	338	327	490	14	5/8"	25.7	112	b
F-86100Q/2	DN100	512	1044	646	234	368	360	540	18	7/8"	33.0	152	b
F-86125Q/2	DN125	616	1167	704	261	425	436	652	18	7/8"	52.7	240	b

活塞并联机组
Piston parallel unit



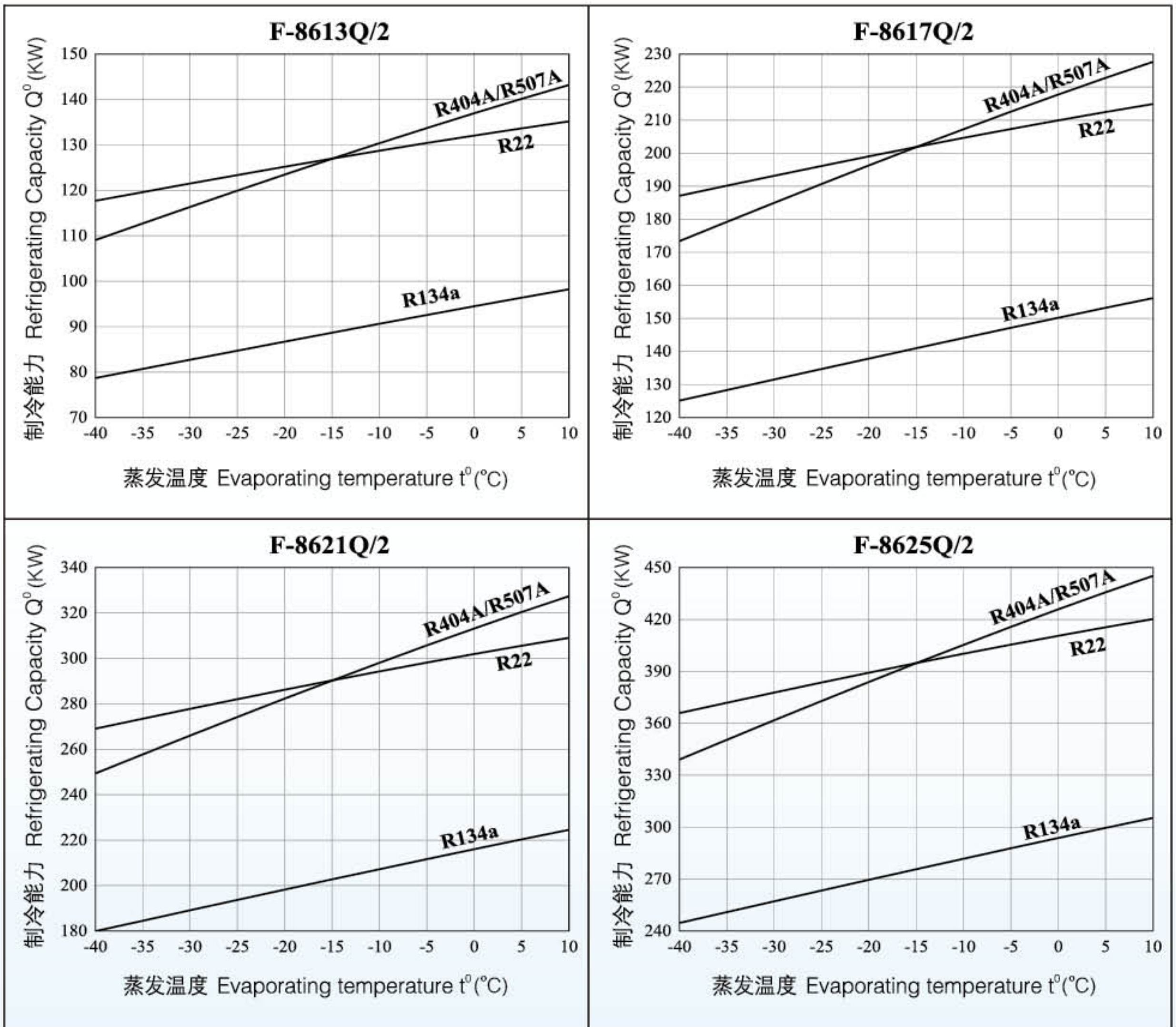
新设计的系统多以排气压力回油
Oil control feeds at discharge pressure in new system

带内置油分螺杆并联压缩机组
Screw compressor with inside oil separator parallel unit



F-86Q 系列储油式油分离器制冷能力

（表一）



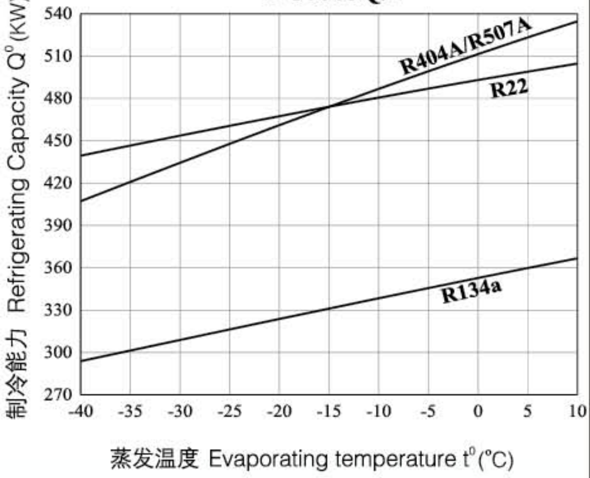
上述数据基于：冷凝温度+40℃，排气温度+80℃。

Based on the above date: condensing temperature+40℃, exhaust temperature+80℃。

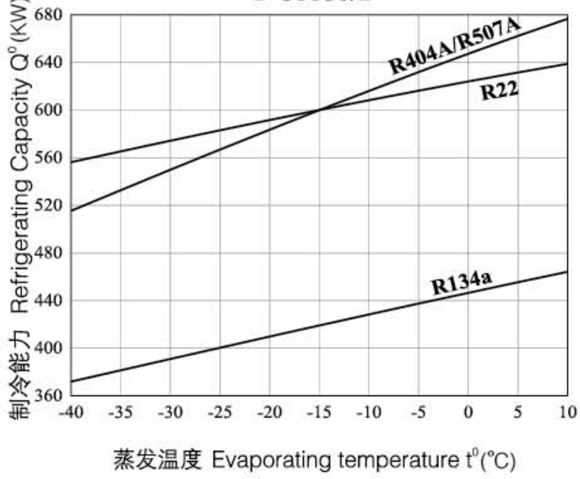
F-86Q 系列储油式油分离器制冷能力

（表二）

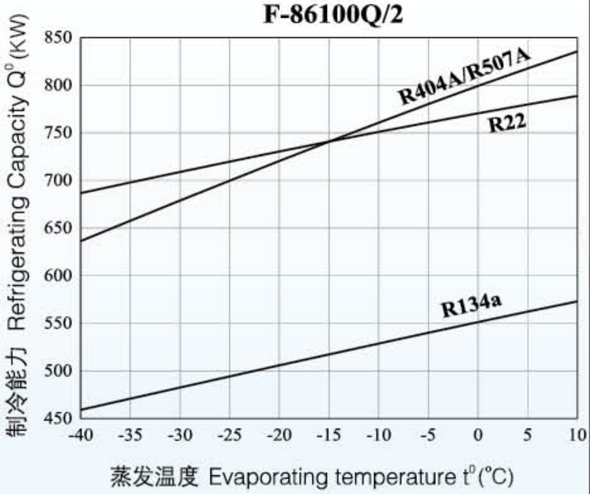
F-86065Q/2



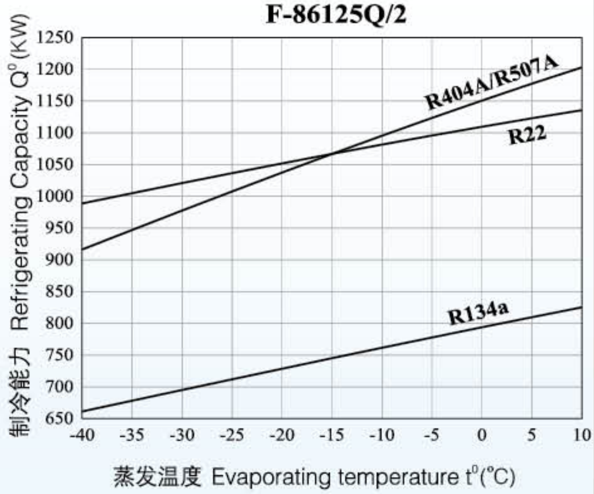
F-86080/2



F-86100Q/2



F-86125Q/2



上述数据基于：冷凝温度+40℃，排气温度+80℃。

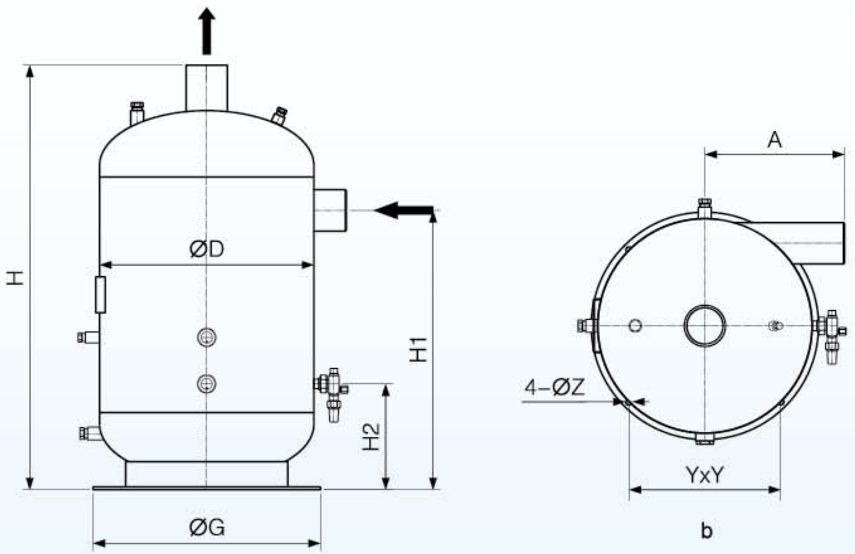
Based on the above date: condensing temperature+40℃, exhaust temperature+80℃。

E-86Q 系列储油式油分离器适用于以排气压力回油的并联制冷压缩机组。它可以将分离出来的润滑油储存在下部的储油段内。依靠油分离器和压缩机低压侧之间的压差，通过油位控制系统将润滑油输送到每一台压缩机。

- E-86065Q 设计压力：2.9MPa（表压）；
- E-86080Q 设计压力：2.9MPa（表压）；
- E-86100Q 设计压力：2.9MPa（表压）；
- E-86125Q 设计压力：2.5MPa（表压）；
- 适用制冷剂：R134a,R22,R407C,R404A,R507A。

E-86Q series oil-stored type oil separator is suitable for compressor rack that return oil with discharge pressure (high pressure). It can store the separated lubricating oil at the bottom in the oil storage section. Relying on the pressure difference between the oil separator and the low pressure side of the compressor rack, the lubricating oil is delivered to each compressor through the oil level control system.

- E-86065Q design pressure: 2.9MPa(gauge);
- E-86080Q design pressure: 2.9MPa(gauge);
- E-86100Q design pressure: 2.9MPa(gauge);
- E-86125Q design pressure: 2.5MPa(gauge);
- Applicative refrigerants: R134a, R22, R407C, R404A, R507A.



型号 Model	接口尺寸 Joint Size	ØD (mm)	H (mm)	H1 (mm)	H2 (mm)	A (mm)	Y (mm)	G (mm)	ØZ (mm)	出油口 Oil Outlet	V1 油容积 Oil Volume (l)	总容积 Total Volume (l)
E-86065Q	Ø76BW	412	916	620	207	270	290	440	14	5/8"	19.0	91
E-86080Q	Ø89BW	462	919	601	231	300	327	490	14	5/8"	25.7	112
E-86100Q	Ø108BW	512	1017	641	231	330	360	540	18	7/8"	33.0	152
E-86125Q	Ø133BW	612	1108	702	259	400	436	650	18	7/8"	52.7	240

备注：制冷能力请参考F-86Q系列储油式油分离器。

Remark: Please take the refrigeration capability of F-86Q series oil-stored type oil separator as your reference.

F-96系列二次油分离器是针对满液式制冷装置和高压缩比工况运行的系统设计的。它可以使最少量的油进入系统内部，从而提高换热效率，降低失油危险。

油气混合气沿油分离器内桶与外桶之间形成的环形通道进入油分离器中，油颗粒在离心力的作用下被分离到桶壁上，在这里被分离出来的油颗粒聚集成较大的油滴流入油分离器底部的油收集区。内桶安装了一个用不锈钢丝编织成的除雾器。从而形成了一道捕获雾状油的屏障。这道屏障使雾状油变得紊乱，从而使得它们彼此相互碰撞、聚集，并且吸附在除雾器上变成油滴，最后靠重力作用到达油分离器底部的油收集区。这个系列产品通过捕获微小颗粒油滴及大部分油蒸气来达到高效油气分离的目的。

内桶下面设计了一个碟状反射屏，反射屏的独特设计使得油收集区域被独立分隔出来，它可以防止油分离器内流速过高时油收集区域内的油被带走。

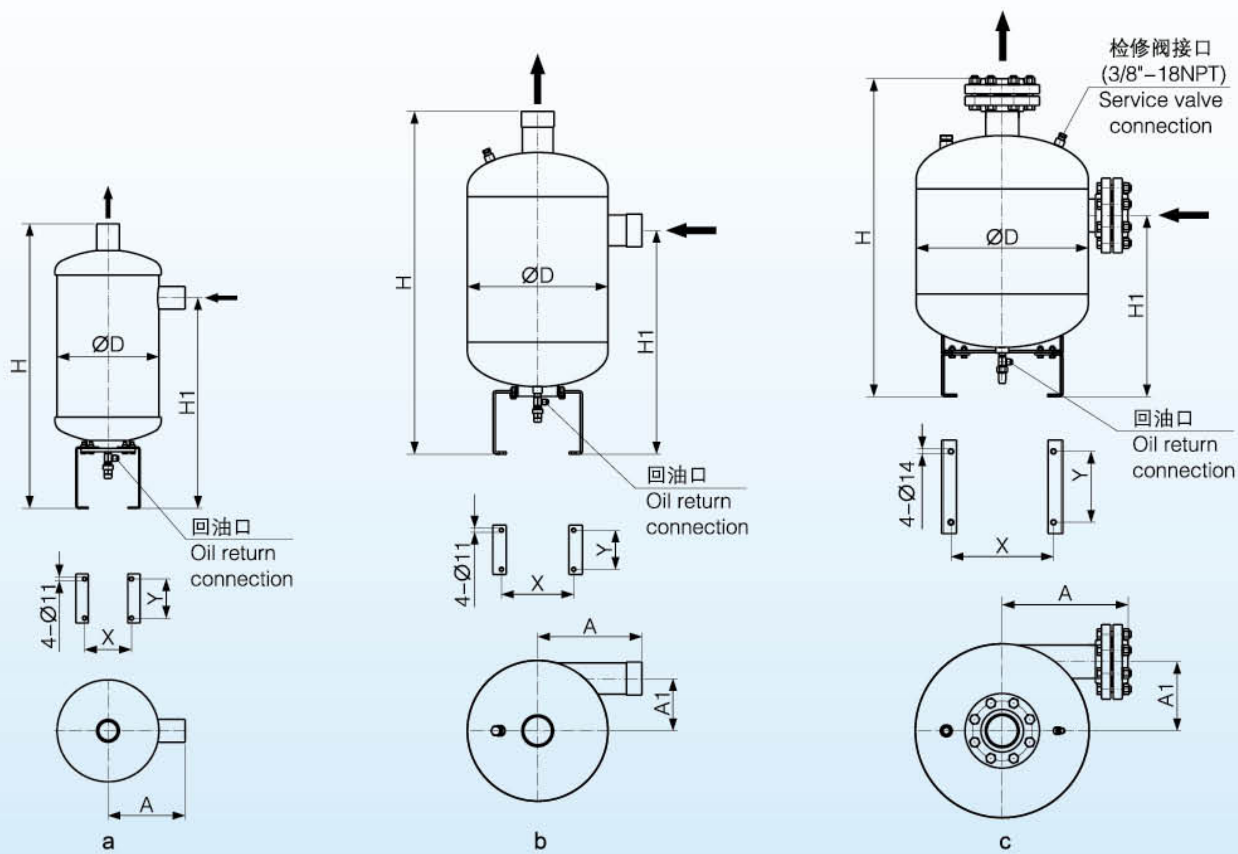
- 设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

F-96 Series Oil Separator is specially designed for the flooded refrigeration system and also for the system whose compression ratio is high. It will allow the least oil to enter into the system, so the heat exchange ratio will be increased and the danger of oil lose will be decreased.

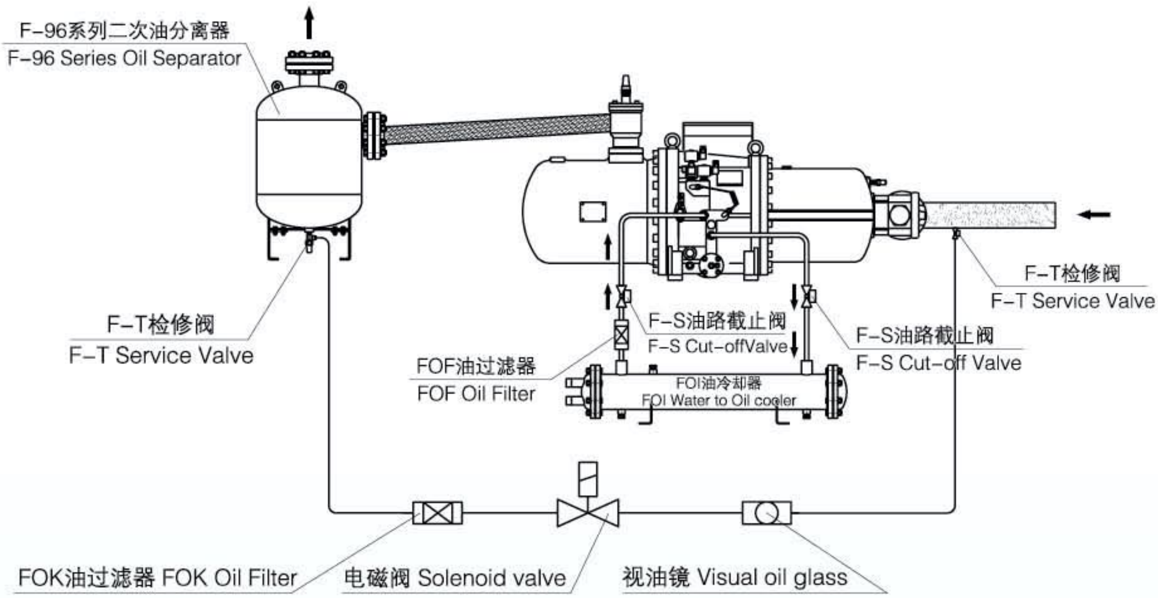
The refrigerant gas containing oil in aerosol form will enter into the oil separator following the circular passage who is formed between the internal and external cylinders. The oil particles will be separated onto the shell wall by the centrifugal force. The separated oil particles get together and become heavier ones and then drip to the oil collection area at the bottom of the oil separator. Inside of this internal cylinder there is a demister which is knited by stainless steel wire. So it engender a barrier to capture the oil in fog form. This barrier make the oil in fog form chaotic and they collide and get together with each other, and then they will be adsorbed by the demister and final become the oil drop. The oil drop will fall into the oil collection area at the bottom of the oil separator by the gravity action. This series of oil separator achieves the high-performance of oil separation by capturing the tiny oil particles and most of the oil vapour.

And at the bottom of the internal cylinder there is an acetabuliform reflecting screen. With this special design of the reflecting screen it isolates the oil collection area independently, so it prevents the oil in the oil collection area being taken away when the flow rate inside is high.

- The design pressure: 2.9MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



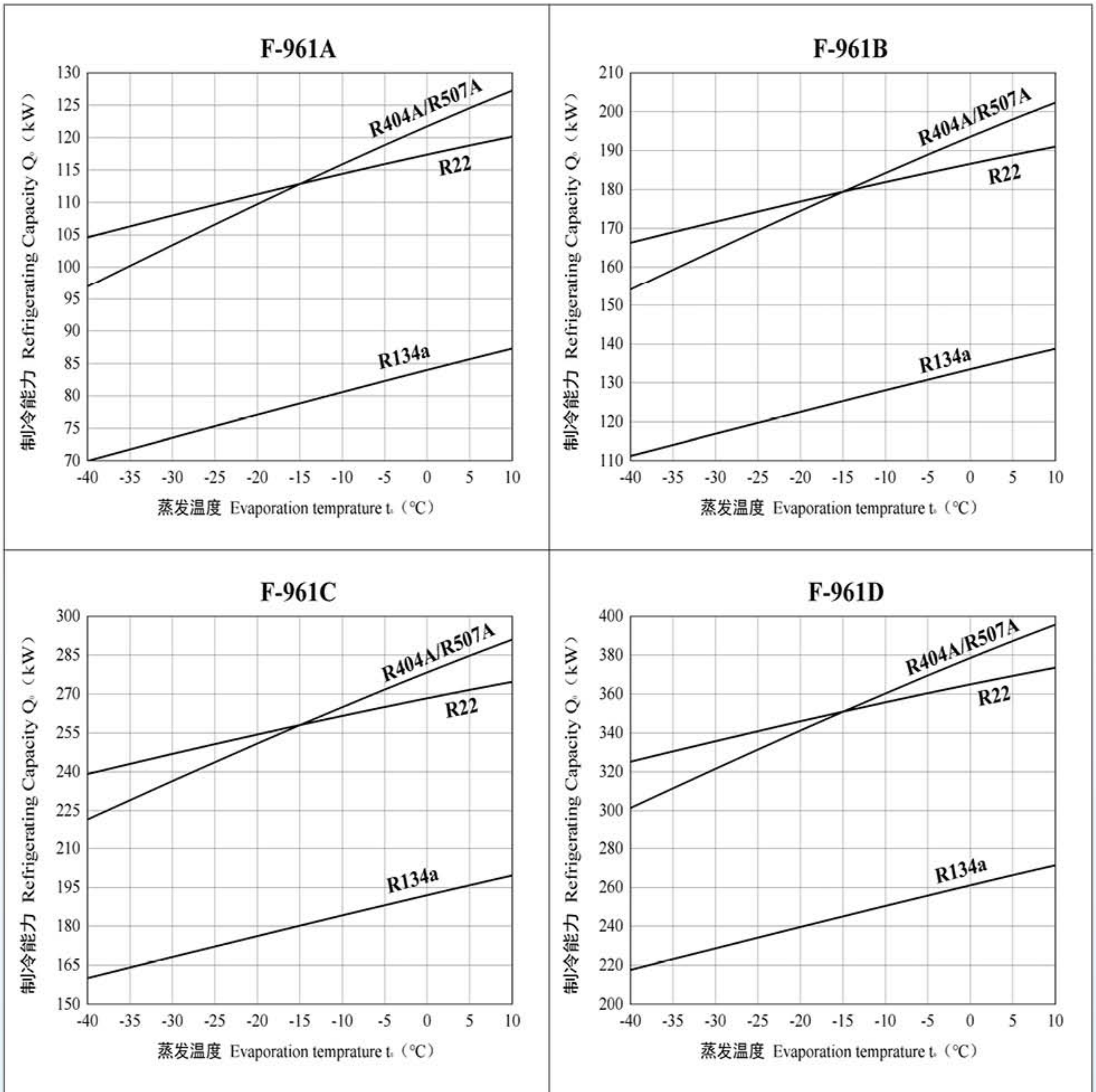
F-96系列应用系统图
F-96 Series Application system diagram



根据压缩机带油量设定回油电磁阀开启频率和时间，直接将分离出来的润滑油送回压缩机吸气侧。
Setting up the opens frequency and time of the magnetic valve according to the quantity of the oil taken by compressor, and sending the separated oil back to the suction side of compressor directly.

型号 Model	接口尺寸 Joint Size	ØD (mm)	H (mm)	H1 (mm)	A (mm)	A1 (mm)	X (mm)	Y (mm)	油出口 Oil Outlet (SAE)	容积 Volume (l)	图例 Fig.
F-961A	1-5/8"	219	714	543	166	–	126	105	3/8"	16	a
F-961B	2-1/8"	273	765	563	199	–	194	105	3/8"	24	a
F-961C	2-5/8"	325	876	600	258	120	194	105	3/8"	41	b
F-961D	3-1/8"	377	919	609	280	140	194	105	3/8"	60	b
F-962A	DN65	412	817	491	297	166	275	190	3/8"	60	c
F-962B	DN80	462	852	485	338	185	275	190	3/8"	76	c
F-962C	DN100	516	986	588	368	202	275	190	3/8"	117	c
F-962D	DN125	616	1091	628	430	234	275	190	3/8"	184	c

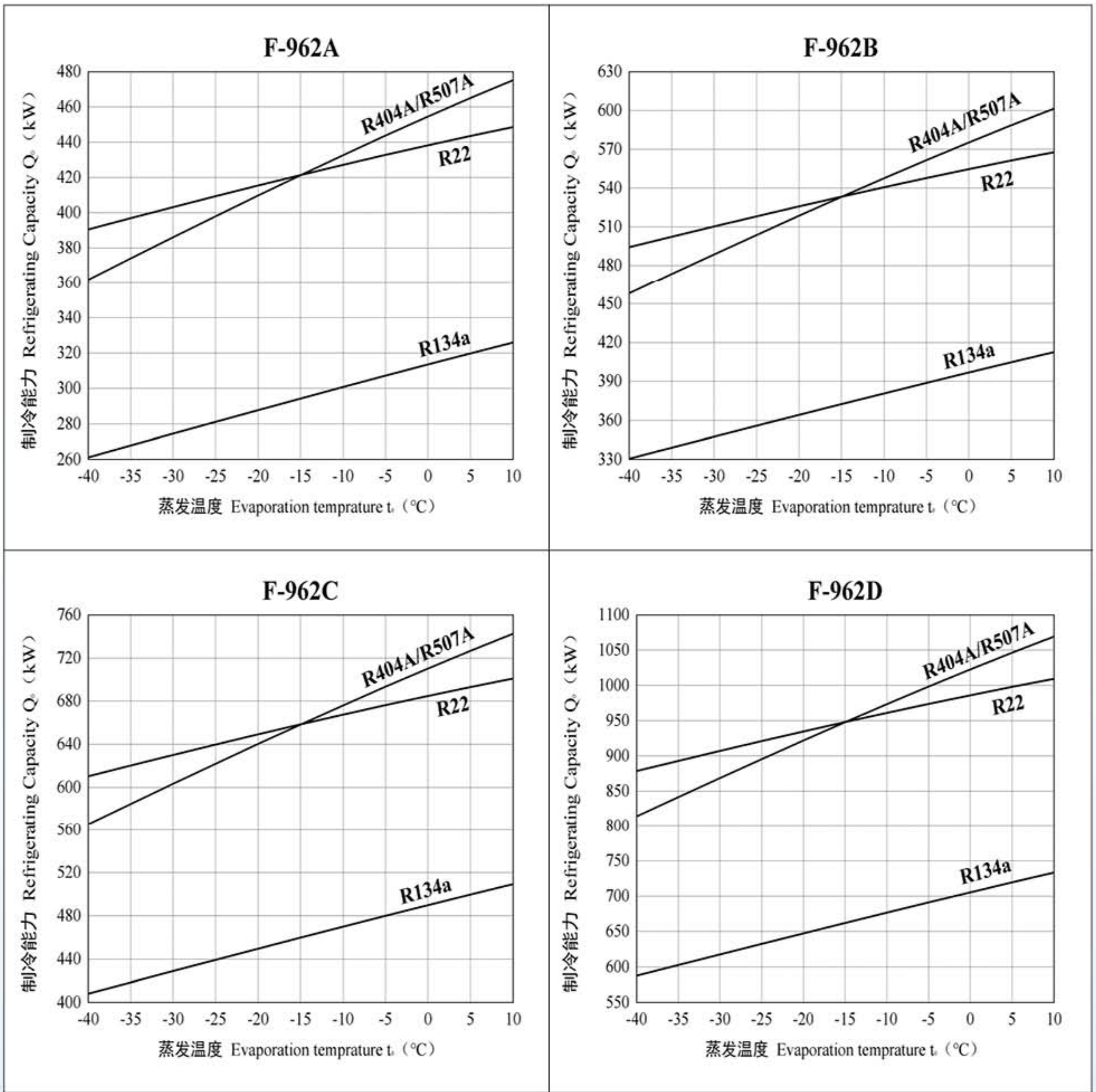
F-96 系列二次油分离器制冷能力
（表一）



上述数据基于：冷凝温度+40℃，排气温度+80℃。

Based on the above date: condensing temperature+40℃, exhaust temperature+80℃。

F-96 系列二次油分离器制冷能力
（表二）



上述数据基于：冷凝温度+40℃，排气温度+80℃。

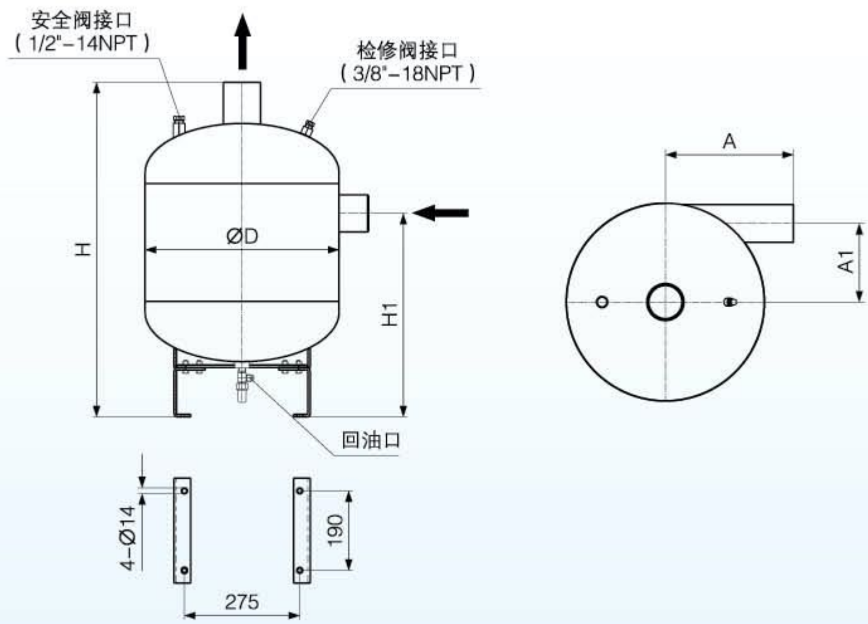
Based on the above date: condensing temperature+40℃, exhaust temperature+80℃。

E–96 系列二次油分离器是针对满液式制冷装置和高压缩比制冷系统设计的。它可以使最少量的油进入系统内部，从而提高换热器效率，降低压缩机缺油风险。

- E–962A 设计压力：2.9 MPa（表压）；
- E–962B 设计压力：2.9 MPa（表压）；
- E–962C 设计压力：2.9 MPa（表压）；
- E–962D 设计压力：2.5 MPa（表压）；
- 适用制冷剂：R134a,R22,R407C,R404A,R507A 。

E–96 series oil separator is specially designed for the flooded refrigeration system and high compression ratio refrigeration system. It can make the minimum amount of oil into the system, so as to improve the efficiency of heat exchanger and reduce the risk of compressor oil shortage.

- E–962A design pressure: 2.9 MPa (gauge);
- E–962B design pressure: 2.9 MPa (gauge);
- E–962C design pressure: 2.9 MPa (gauge);
- E–962D design pressure: 2.5 MPa (gauge);
- Applicative refrigerants: R134a, R22, R407C, R404A, R507A.



型号 Model	接口尺寸 Joint Size (mm)	ØD (mm)	H (mm)	H1 (mm)	A (mm)	A1 (mm)	油出口 Oil Outlet (SAE)	容积 Volume (l)
E–962A	Ø76 BW	412	789	493	270	162	3/8"	60
E–962B	Ø89 BW	462	799	486	300	184	3/8"	76
E–962C	Ø108 BW	512	958	587	330	190	3/8"	117
E–962D	Ø133 BW	612	1034	623	400	230	3/8"	184

备注：制冷能力请参考F–96系列二次油分离器。

Remark: Please take the refrigeration capability of F–96 series oil separator as your reference.

OVS 系列螺杆机外置油分离器适用于不带油分离器的螺杆式压缩机及多台压缩机并联螺杆压缩机组。

★特别提示：如果设备在较低的环境温度中使用油分离器应该进行保温处理。

● 设计压力：2.9 MPa（表压）；

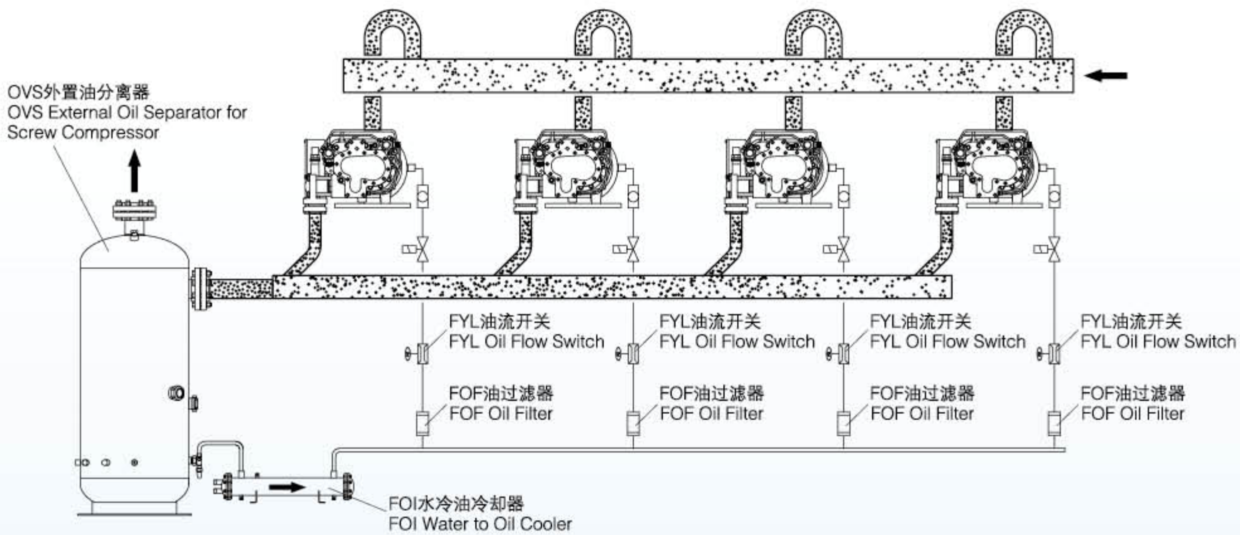
● 适用制冷剂：R134a,R22,R407C,R404A,R507A

OVS series external oil separator for screw compressor can be used for the screw compressor without oil separator, it can be also used for the parallel screw compressor unit.

★ Special note：If the oil separator was fixed in low ambient temperature, do please perform insulation treatment to it.

● Design pressure：2.9 MPa（gauge）；

● Applicative refrigerants: R134a, R22, R407C, R404A, R507A.



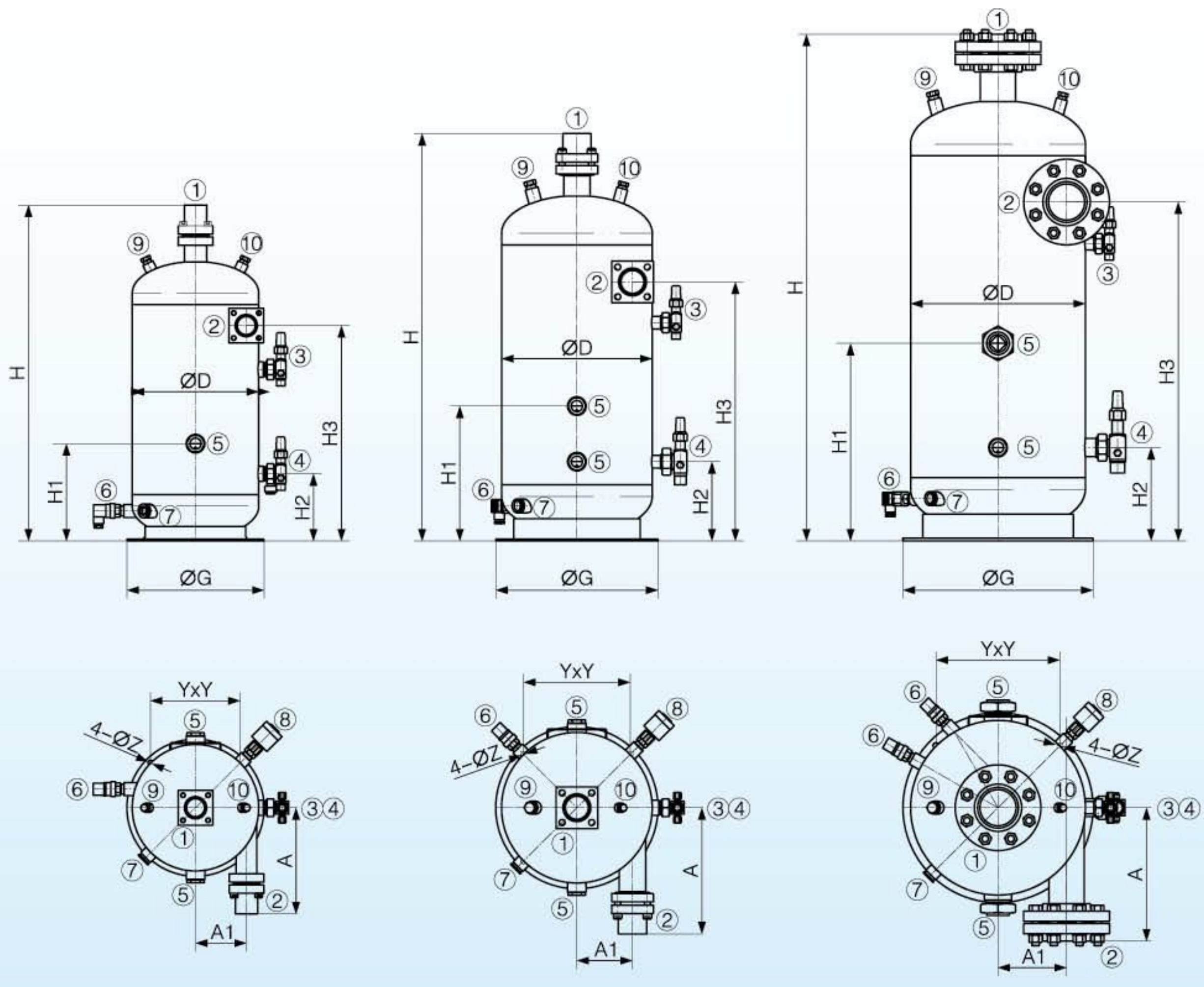
技术参数 Technical Data

型号 Model	高/中温范围 High/Medium temperature range		低温范围 Low temperature range
	R134a, R22	R404A, R507A	R134a, R22, R404A, R507A
OVS.20/6	130	110	180
OVS.40/6	250	220	300
OVS.90/6	450	340	520
OVS.120/6	580	440	660
OVS.220/6	1160	840	1320
OVS.400/6	1320	1180	1550
OVS.670/6	2050	1900	2500
OVS.1100/6	2800	2550	3400

以上标注基于在40℃冷凝温度允许压缩机最大理论排量VH（m^3/h）
The allowed max. theoretical displacement VH（m^3/h）listed as above are on the basis of 40℃ condensing temperature

连接位置 Connection Positions

1	制冷剂出口 Refrigerant outlet
2	制冷剂进口 Refrigerant inlet
3	注油阀连接口 Conn. for oil charging valve
4	油出口 Oil outlet
5	油位视镜 Oil level sight glass
6	油加热器接口 Conn. for oil heater
7	油温传感器接口 Conn. for oil temperature sensor
8	油位监测口Conn. for oil level monitoring
9	安全阀接口 Conn. for safety valve
10	检修阀 Conn. for check valve



a b C

外形尺寸 Dimensional Drawings

	OVS.20/6	OVS.40/6	OVS.90/6	OVS.120/6	OVS.220/6	OVS.400/6	OVS.670/6	OVS.1100/6
最大注油量 (L) Max.Oil charge (l)	10	19	40	50	90	140	250	330
总容积 (L) Total volume (l)	29	50	90	126	239	404	672	1113
ØD (mm)	273	325	377	412	512	666	770	920
H (mm)	725	880	1094	1239	1486	1553	1905	2223
H1 (mm)	210	291	427	475	550	501	662	639
H2 (mm)	145	171	202	210	240	276	367	419
H3 (mm)	465	559	732	870	1075	1018	1292	1494
A (mm)	230	272	288	307	357	447	506	597
A1 (mm)	110	120	148	162	200	265	300	365
Y×Y (mm)	193	230	267	290	360	465	530	655
ØG (mm)	296	350	410	440	540	700	800	970
ØZ (mm)	12	13	13	14	18	18	18	20
制冷剂进口 (mm) Refrigerant inlet (mm)	42(ODS)	54(ODS)	DN65	DN65	DN80	DN100	DN125	DN150
制冷剂出口 (mm) Refrigerant outlet (mm)	42(ODS)	54(ODS)	DN65	DN65	DN80	DN100	DN125	DN150
油出口 (mm) Oil outlet(mm)	Ø16	Ø22	Ø28	Ø28	Ø42	Ø54	Ø76	Ø76
油加热 Oil heater	140W×1	300W×1	300W×2	300W×2	300W×3	300W×3	300W×3	300W×5
油加热输入 Input oil heater	1P/230V/AC							
图例 Fig.	a	b	c	c	c	c	c	c

ELY 系列螺杆机外置油分离器适用于不带油分离器的螺杆式压缩机及多台压缩机并联螺杆压缩机组。

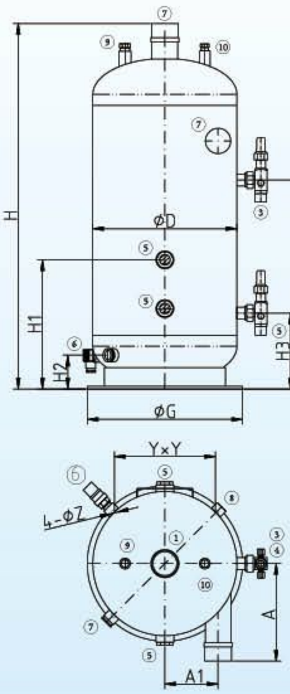
★特别提示：如果设备在较低的环境温度中使用油分离器应该进行保温处理。

- ELY-20 设计压力：2.9 MPa（表压）；
- ELY-40 设计压力：2.9 MPa（表压）；
- ELY-90 设计压力：2.9 MPa（表压）；
- ELY-120 设计压力：2.9 MPa（表压）；
- ELY-220 设计压力：2.9 MPa（表压）；
- ELY-400 设计压力：2.5 MPa（表压）；
- ELY-670 设计压力：2.5 MPa（表压）；
- ELY-1100 设计压力：2.5 MPa（表压）；
- 适用制冷剂：R134a,R22,R407C,R404A,R507A。

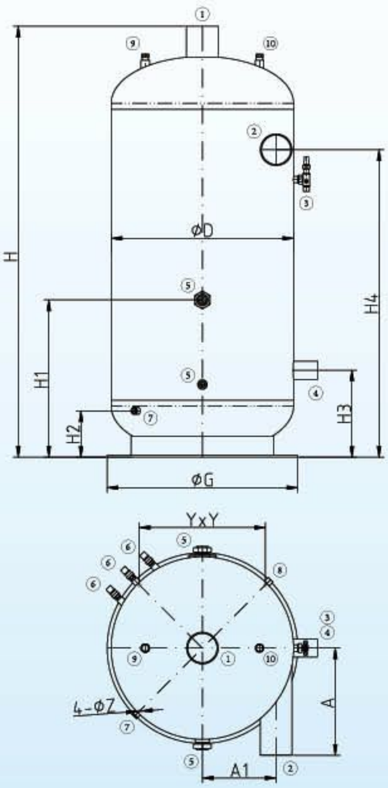
ELY series external oil separator for screw compressor can be used for the screw compressor without oil separator, it can be also used for the screw compressor and parallel screw compressor unit.

★ Special note：If the oil separator was fixed in low ambient temperature, do please perform insulation treatment to it.

- ELY-20 design pressure：2.9 MPa（gauge）；
- ELY-40 design pressure：2.9 MPa（gauge）；
- ELY-90 design pressure：2.9 MPa（gauge）；
- ELY-120 design pressure：2.9 MPa（gauge）；
- ELY-220 design pressure：2.9 MPa（gauge）；
- ELY-400 design pressure：2.5 MPa（gauge）；
- ELY-670 design pressure：2.5 MPa（gauge）；
- ELY-1100 design pressure：2.5 MPa（gauge）；
- Applicative refrigerants：R134a, R22, R407C, R404A, R507A.



a



b

技术参数 Technical Data

型号 Model	高/中温范围 High/Medium temperature range		低温范围 Low temperature range
	R134a、R22	R404A、R507A	R134a、R22、R404A、R507A
ELY-20	130	110	180
ELY-40	250	220	300
ELY-90	450	340	520
ELY-120	580	440	660
ELY-220	1160	840	1320
ELY-400	1320	1180	1550
ELY-670	2050	1900	2500
ELY-1100	2800	2550	3400
以上标注基于在40℃冷凝温度允许压缩机最大理论排量VH（m^3/h） The allowed max. theoretical displacement VH（m^3/h）listed as above are on the basis of 40℃ condensing temperature			

连接位置 Connection Positions

1	制冷剂出口 Refrigerant outlet
2	制冷剂进口 Refrigerant inlet
3	注油阀连接口 Conn. for oil charging valve
4	油出口 Oil outlet
5	油位视镜 Oil level sight glass
6	油加热器接口 Conn. for oil heater
7	油温传感器接口 Conn. for oil temperature sensor
8	油位监测口Conn. for oil level monitoring
9	安全阀接口 Conn. for safety valve
10	检修阀 Conn. for check valve

外形尺寸 Dimensional Drawings

	ELY-20	ELY-40	ELY-90	ELY-120	ELY-220	ELY-400	ELY-670	ELY-1100
最大注油量 Max.oil charge (L)	10	19	40	50	90	140	250	330
总容积 Total Volume (L)	29	50	90	120	220	400	669	1105
ØD (mm)	273	325	377	412	512	662	766	916
H (mm)	682	824	1049	1193	1428	1479	1808	2105
H1(mm)	210	291	425	474	549	498	660	636
H2(mm)	65	76	90	99	129	163	195	221
H3(mm)	145	171	200	209	239	273	365	416
H4(mm)	465	559	730	869	1076	1015	1290	1491
A(mm)	195	220	255	270	320	400	450	550
A1(mm)	110	120	148	162	200	270	310	365
YxY(mm)	193	230	267	290	360	465	530	655
ØG(mm)	296	350	410	440	540	700	800	970
ØZ(mm)	12	13	13	14	18	18	18	20
制冷剂进口 Refrigerant inlet (mm)	1-5/8"ODS	2-1/8"ODS	Ø76(BW)	Ø76(BW)	Ø89(BW)	Ø108(BW)	Ø133(BW)	Ø159(BW)
制冷剂出口 Refrigerant outlet (mm)	1-5/8"ODS	2-1/8"ODS	Ø76(BW)	Ø76(BW)	Ø89(BW)	Ø108(BW)	Ø133(BW)	Ø159(BW)
油出口 Oil outlet(mm)	Ø16(ODS)	Ø22(ODS)	Ø28(ODS)	Ø28(ODS)	Ø42(ODS)	DN50(BW)	DN65(BW)	DN65(BW)
油加热 Oil heater	140W×1	300W×1	300W×2	300W×2	300W×3	300W×3	300W×3	300W×5
油加热输入 Oil heater input	1P/230V/AV							
图例 Fig.	a	b	b	b	b	b	b	b

OWS系列卧式螺杆机油分离器适用于不带油分离器的螺杆式压缩机，由于OWS的优秀设计，可以使最少量的润滑油进入系统内部，确保压缩机良好的润滑，提高系统效率。

油分离器下部为储油部分，设计了标准油位视油镜和最低油位视油镜。

油分离器的油加热器应在压缩机停止时通电工作，压缩机运转时油加热器应停止工作。如果在低环境温度中使用需将油分离器作保温处理。

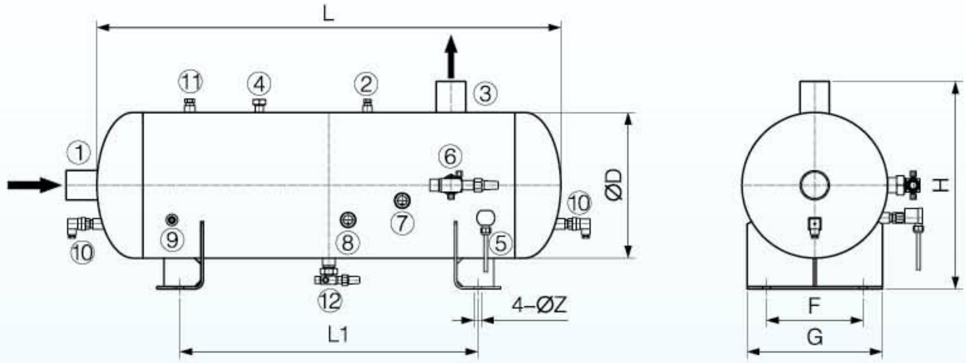
- 设计压力：2.9 Mpa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

OWS series horizontal oil separator for screw compressor can be used for the screw compressor without oil separator. Because of the excellent design of OWS, it will allow the least lubricant enter into the system, to make sure there will have enough lubricant to the compressor, and the system efficiency will be increased.

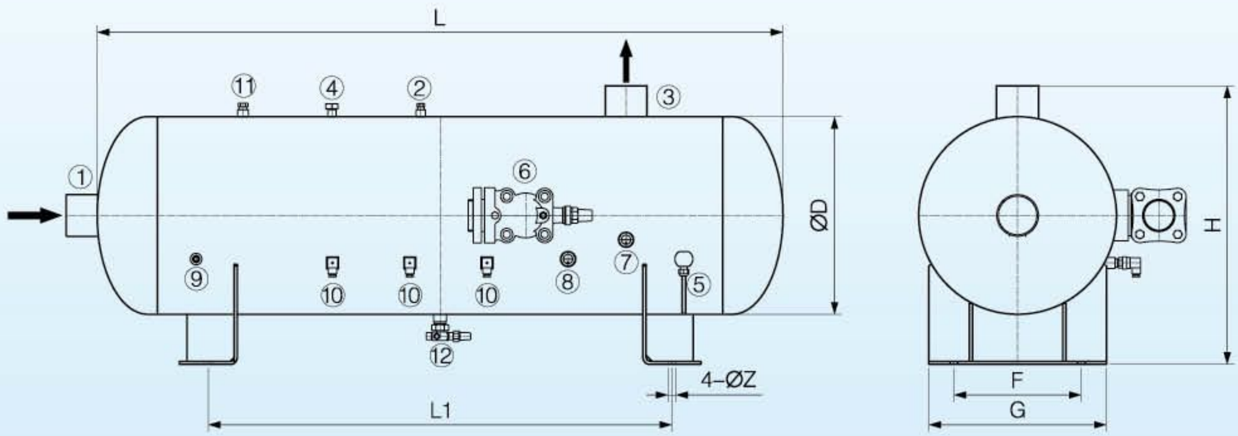
There is an oil-stored area at the bottom of oil separator, and it is designed with standard oil sight glass and lowest-oil level sight glass.

The oil heater of oil separator shall be power up to work when the compressor stops running, and it shall stop working when compressor starts to run. If you used the oil separator in low-temperature environment, do please preform the insulation treatment to it.

- The design pressure: 2.9MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



a



b

连接位置 Connection Positions

1	制冷剂进口 Refrigerant inlet
2	检修阀连接口 Conn. for service valve
3	制冷剂出口 Refrigerant outlet
4	注油阀连接口 Conn. for oil charging valve
5	油位开关接口 Conn. for oil level monitoring
6	油出口 Oil outlet
7	超限油位视镜 Transfinite oil–level sight glass
8	标准油位视镜 Standard oil–level sight glass
9	油温传感器接口 Conn. for oil temperature sensor
10	油加热器接口 Conn. for oil heater
11	安全阀接口 Conn. for safety valve
12	放油口 Conn. for oil drain

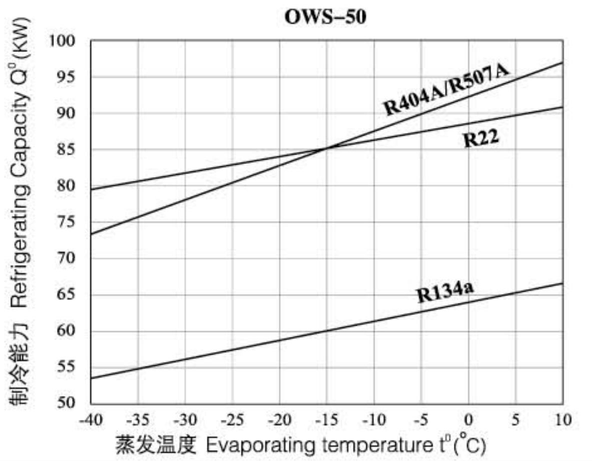
外形尺寸 Dimensional Drawings

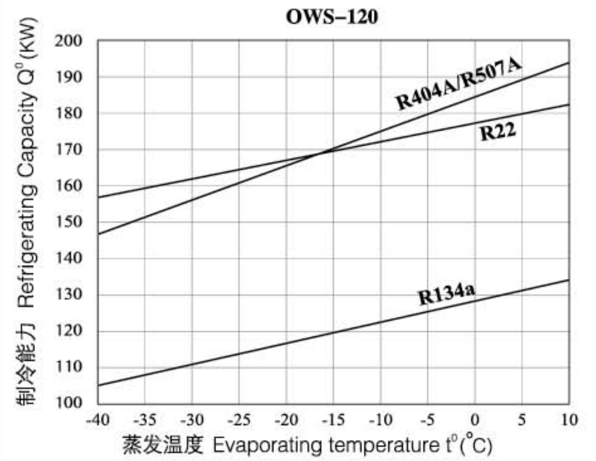
	OWS–50	OWS–120	OWS–240	OWS–330	OWS–530	OWS–800	OWS–1200
最大注油量 Max.oil charge (L)	19	40	80	108	177	249	305
总容积 Total Volume (L)	51	121	241	330	532	796	1180
ØD (mm)	273	377	462	512	616	716	816
L (mm)	1000	1200	1596	1775	2000	2200	2500
L1 mm)	660	770	1100	1200	1300	1450	1650
H (mm)	413	537	692	742	766	966	1066
G (mm)	260	350	420	460	550	640	720
F (mm)	180	250	290	330	400	460	530
ØZ(mm)	20	20	20	20	20	20	20
制冷剂进口 Refrigerant inlet(mm)	DN50	DN65	DN80	DN100	DN125	DN125	DN150
制冷剂出口 Refrigerant outlet(mm)	DN50	DN65	DN80	DN100	DN125	DN125	DN150
油出口 Oil outlet(mm)	Ø22	Ø28	Ø28	Ø42	Ø42	Ø76	Ø76
油加热器 Oil heater	140W×2	300W×2	300W×3	300W×3	300W×3	300W×4	300W×5
油加热器输入 Oil heater input	1P/230V/AC						
图例 Fig.	a	a	b	b	b	b	b

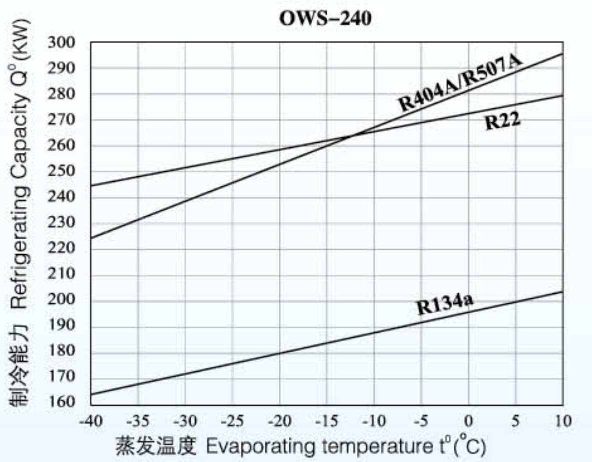
OWS 系列卧式螺杆机油分离器制冷能力表

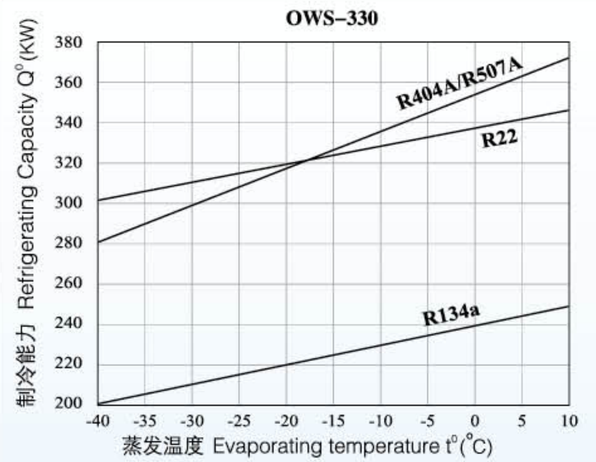
OWS Series Horizontal Oil Separator for Screw Compressor Refrigerating Capacity Table

（表一）









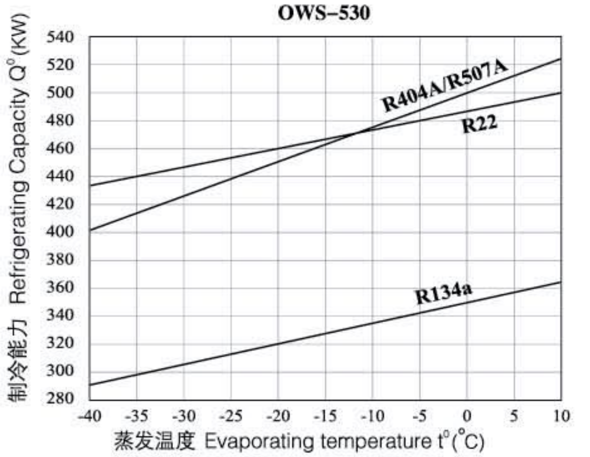
上述数据基于：冷凝温度+40℃，排气温度+80℃。

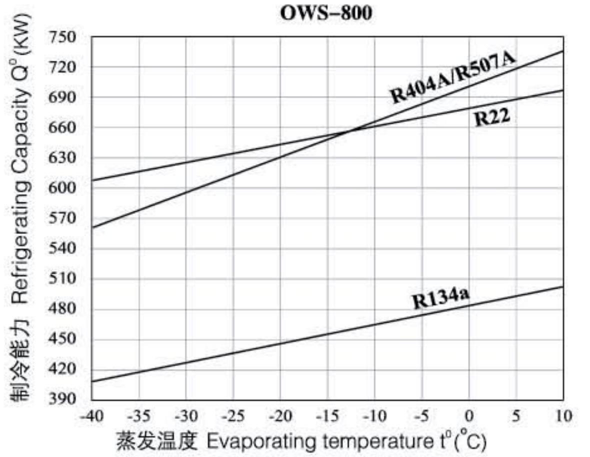
Based on the above date: condensing temperature+40℃, exhaust temperature+80℃。

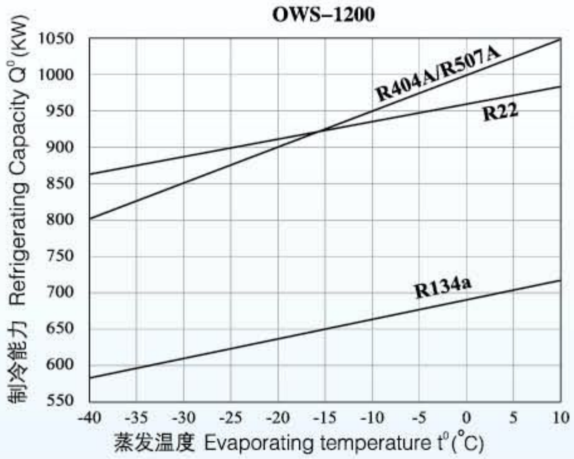
OWS 系列卧式螺杆机油分离器制冷能力表

OWS Series Horizontal Oil Separator for Screw Compressor Refrigerating Capacity Table

（表二）







上述数据基于：冷凝温度+40℃，排气温度+80℃。

Based on the above date: condensing temperature+40℃, exhaust temperature+80℃。

OLX螺杆机粗效油过滤器

OLX螺杆机粗效油过滤器安装在OVS螺杆机外置油分离器油出口，可以过滤掉系统中大于50μm的颗粒，有效地保证了螺杆机外部油管路系统正常使用。

- 设计压力：2.9MPa；
- 过滤精度：50μm；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- 适用润滑油：矿物冷冻机油 (MO)，多元醇酯合成冷冻机油 (POE)，烷基苯合成冷冻机油 (AB)。

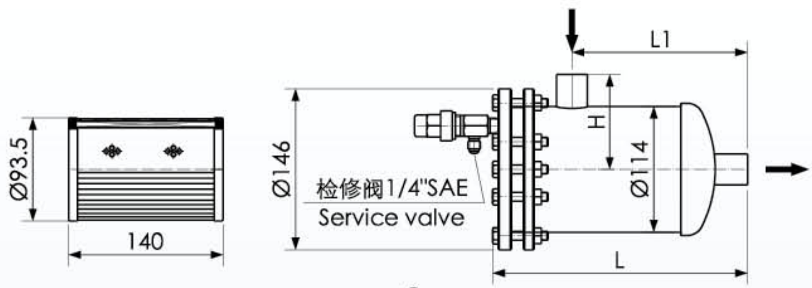
OLX Screw compressor coarse oil filter is installed on the oil outlet of OVS screw compressor external oil separator. It can filter system is larger than 50μm particles in order to ensure the external screw compressor oil pipeline system for normal use.

- The design pressure: 2.9MPa;
- Filter accuracy: 50μm;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- Can be used with mineral oil (MO)、full synthetic (POE)、semi-synthetic lubricant(AB).

OLX-48W粗效油过滤芯

滤芯为百褶式设计，具有非常大的过滤面积和非常小的压力降。

The filter core is designed by balayeuse type. It has vast filter area and make small pressure drop.



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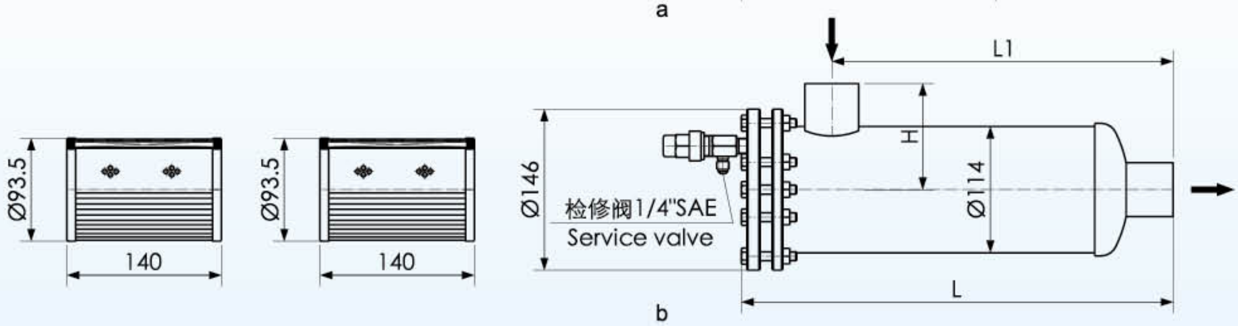


b

型号 Model	接口尺寸 Joint Size（Ø mm）	L (mm)	L1 (mm)	H (mm)	过滤面积 Filter Area (m^2)	图例 Fig.
OLX-05	16	221	153	76	0.12	a
OLX-07	22	231	159	86	0.12	a
OLX-09	28	230	156	85	0.12	a
OLX-13	42	382	300	96	0.24	b
OLX-17	54	392	304	97	0.24	b
OLX-25	76	389	289	96	0.24	b

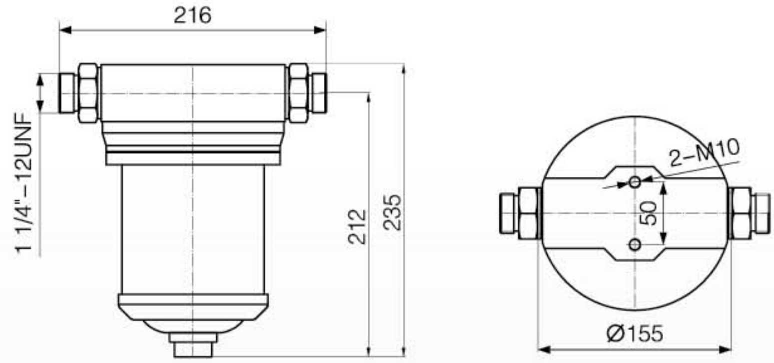
FOF 螺杆机油过滤器 /FOF-OOW 油过滤芯

FOF螺杆机油过滤器专门为螺杆机外部油管路系统设计，进出口配有1-1/4"-12UNF阳螺纹，可方便的和7/8"ODS、5/8"ODS、1/2"ODS、3/8"ODS直线接头连接。过滤芯与进出口呈“T”形连接，这样在更换过滤芯时不需要拆卸连接管路。

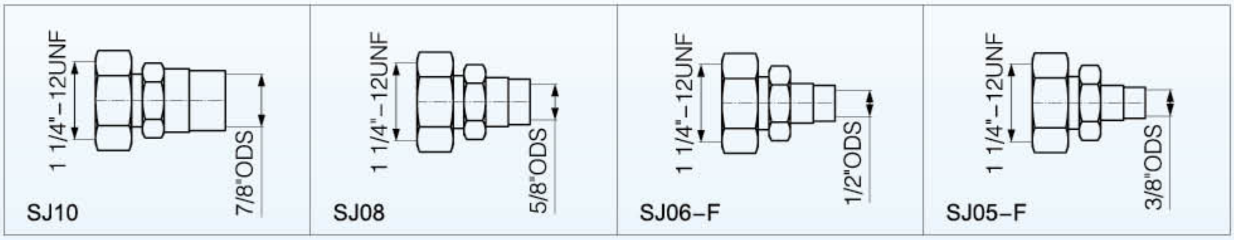
- 最大许可工作压力：31 bar；
- 最高运行温度：+120℃；
- 过滤精度：25μm；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- 适用润滑油：矿物冷冻机油（MO），多元醇酯合成冷冻机油（POE），烷基苯合成冷冻机油(AB)。

FOF Oil filter is special design for the outside oil line system design of screw compressor. The inlet and outlet are assembled with 1-1/4"-12UNF male screw, and it can be connected with 7/8"ODS、5/8"ODS、1/2"ODS and 3/8"ODS connectors expediently. The oil filter core is assembled with "T" type to the inlet and outlet, with this design, it is no need to disassemble the connection line when you replace the oil filter core.

- Max.Admissible Working Pressure: 31 bar;
- The highest running temperature: +120 ℃;
- Filter accuracy: 25μm;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- Can be used with mineral oil (MO)、full synthetic (POE)、semi-synthetic lubricant(AB).

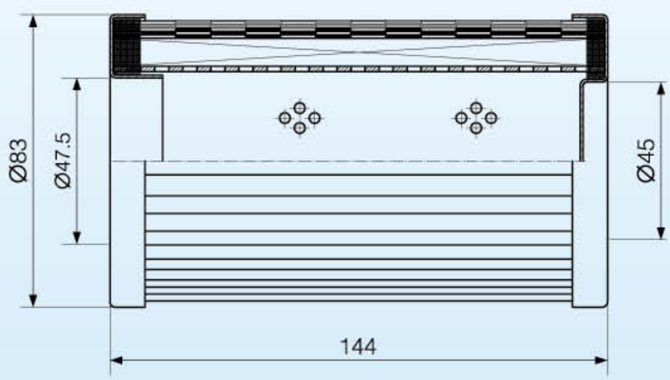


FOF螺杆机油过滤器用直线接头



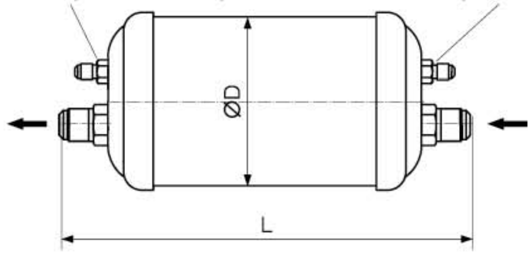
FOF-OOW油过滤芯　滤芯为百褶式设计,具有非常大的过滤面积和非常小的压力降。FOF-00W油过滤芯可以替换比泽尔HS.53，HS.64，HS.74，HS.85系列螺杆机油过滤器(标配O型圈)。

FOF-00W Oil Filter Core The Oil filter core is design with balayeuse type. It has vast filter area and quite small pressure drop. FOF-00W oil filer core also can be used for Bitzer HS.53，HS.64，HS.74，HS.85 series oil filter for screw compressor (O-ring is standard configuration).



小型螺杆机油管路专用产品，进出口为喇叭口阳接头（SAE），更换非常方便。该产品在油的进出口两侧各设计了一个1/4"NPT接口，用于测量油过滤器压差。

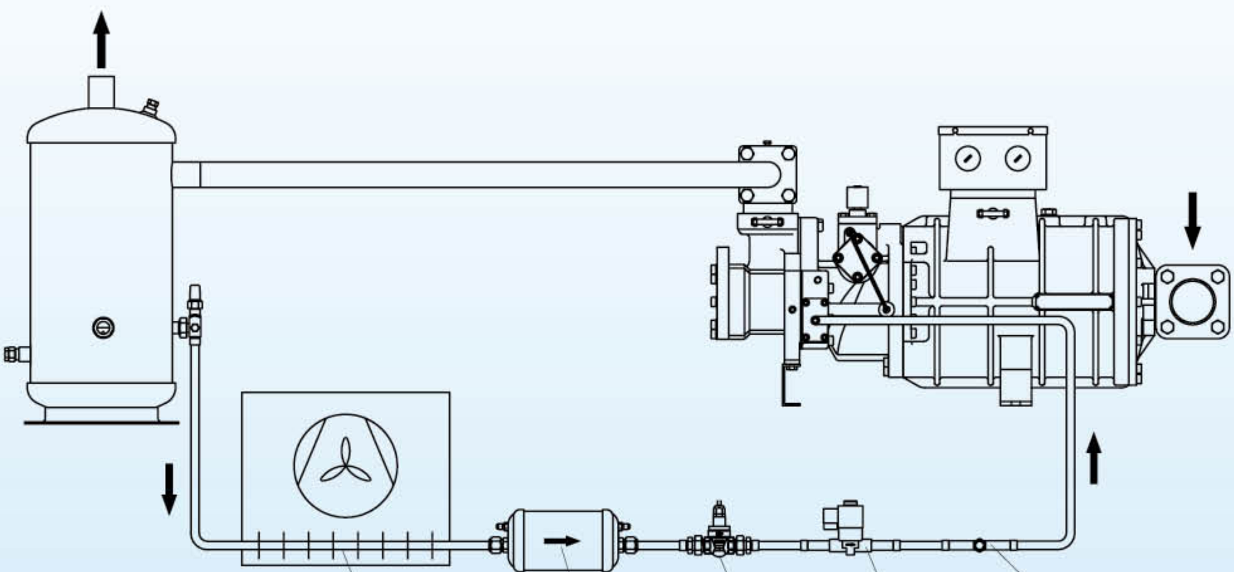
- 最大许可工作压力：31 bar；
- 最高运行温度：120℃；
- 过滤精度：50μm；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- 适用润滑油：矿物冷冻机油 (MO)，多元醇酯合成冷冻机油 (POE)，烷基苯合成冷冻机油 (AB)。



It is a special design product to the oil line of screw compressor. The inlet and outlet are male connector(SAE) with which can be replaced expediently. There is a 1/4" NPT connector to the oil inlet and outlet with which can measure the pressure difference of the oil filter.

- Max.Admissible Working Pressure: 31 bar;
- The max. running temperature: 120℃;
- Filter accuracy: 50μm;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- Can be used with mineral oil (MO)、full synthetic (POE)、semi-synthetic lubricant(AB).

型号 Model	接口尺寸 Joint Size (Inch)	ØD (mm)	L (mm)	过滤面积 Filter area (m^2)
OBS-10	3/8"SAE	114	249	0.12
OBS-12	1/2"SAE	114	257	0.12
OBS-16	5/8"SAE	114	261	0.12



FOG系列管路光电油位开关 FOG Series photoelectric oil level switch for tube line

当螺杆机外置油分离器出现缺油后，油管路中会有大量气体进入，光电油位开关立刻输出断开信号，压缩机停止运行。

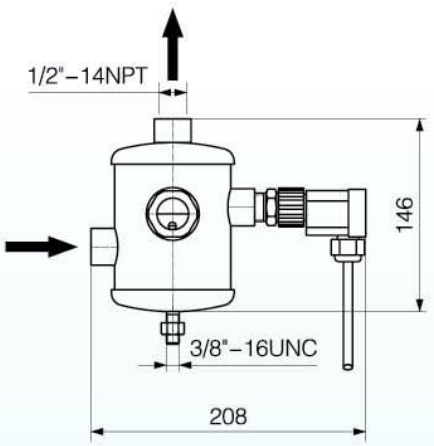
★ FOG必须水平安装，否则会造成控制失灵。

- 输入电压：220V/AC/50Hz
- 最大许可运行压力：31 bar
- 许可工作温度：+120℃～-40℃
- 适用润滑油：矿物冷冻机油（MO），多元醇酯合成冷冻机油（POE），烷基苯合成冷冻机油（AB）

When the external oil separator for screw compressor is lack of oil, large amount of gas will enter into the oil tube line, and the photoelectric oil level switch will output cut-off signal at once, the compressor will stop running.

★ FOG Series photoelectric oil level switch for tube line must be installed horizontally, or it will cause control failure.

- Input voltage：220V/AC/50Hz
- Max. allowed running pressure:31 bar
- Allowed working temperature：+120℃～-40℃
- Can be used with mineral oil（MO）、full synthetic（POE）、semi-synthetic lubricant(AB）



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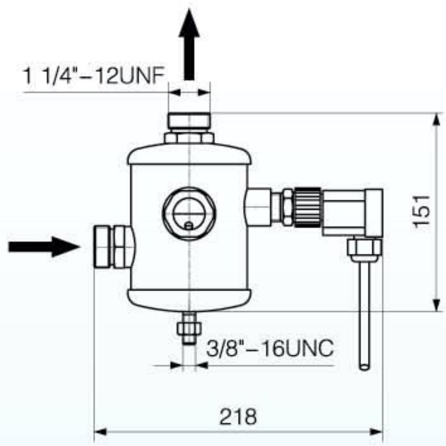

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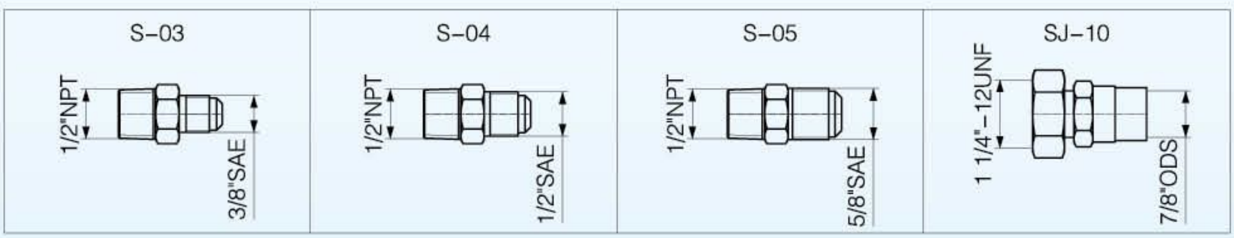


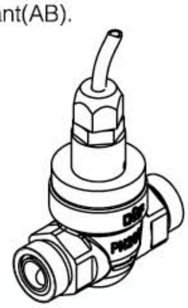
型号 Model	接口尺寸 Joint Size	图例 Fig.
FOG-01	1/2"-14 NPT	a
FOG-02	1 1/4"-12 UNF	b

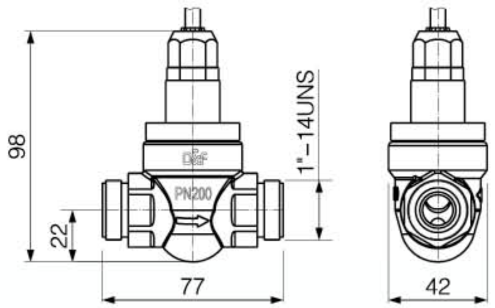
FYL系列产品可以监控螺杆机油流量，当螺杆机油流量低于接通最小流量时，活塞开关自动断开，保护轴承和转子免受无润滑的影响，减少设备维护费用，进出口配有1"–14UNS阳螺纹。

- 为了开关能长久的工作必须对开关簧片进行保护，不可以直接连入低压电路；
- 高效的流量通道，确保极低的压力降；
- 输入电源：220V/AC/50Hz；
- 最大许可工作压力：31 bar；
- 最高油温：120 ℃；
- 适用润滑油：矿物冷冻机油(MO)，多元醇酯合成冷冻机油 (POE)，烷基苯合成冷冻机油 (AB)。

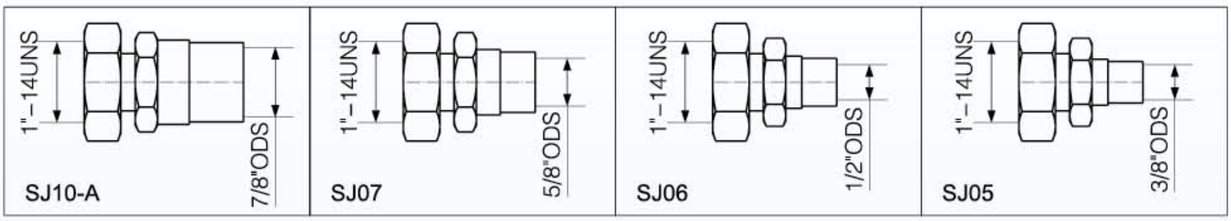
FYL Series products can be used for monitoring the oil flow of the screw compressor. When the oil flow of screw compressor is lower than the minimum value, the piston switch will be cutted–off automatically, it will prevent the bearing and rotator from effect by lacking of lubricant, so the maintenance cost will be decreased. The inlet and outlet are assembled with 1"–14UNS male screw.

- Do please protect the switch reed for its long working life, please do not directly connect it into low voltage circuit.
- High–efficiency flow passageway which can guarantee the lowest pressure–drop.
- Input voltage：220V/AC/50Hz；
- Max. admissible working pressure：31 bar；
- Max. oil temperature：120 ℃；
- Can be used with mineral oil (MO)、full synthetic (POE)、semi–synthetic lubricant(AB).

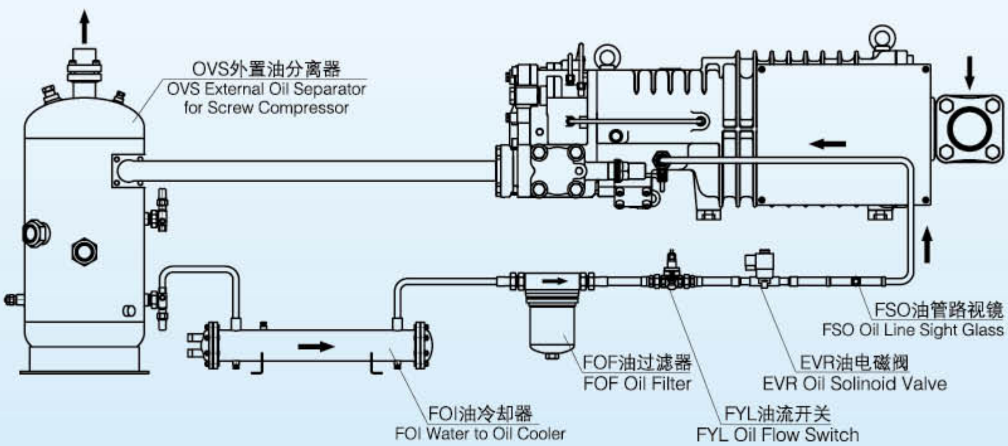




FYL油流开关用直线接头



型号 Model	接通最小流量 Swith on min. Flow	连接 Connections
FYL–04	4 l/min	1"–14UNS
FYL–06	6 l/min	1"–14UNS
FYL–08	8 l/min	1"–14UNS
FYL–10	10 l/min	1"–14UNS



● 功能及参数：

◇对干簧管开关进行保护，避免回路中的电压和电流损坏干簧管开关。即便是低电压（≤ 10V）和弱电流（≤ 1mA）也会导致干簧管开关损坏。

◇供电电压：AC50/60Hz 200...240V ± 10% 3VA；

◇环境温度：-30...70℃；

◇输出继电器：AC 240V,Max.2.5A,C300。

● 工作原理：

控制模块上电后，继电器吸合（11-14 接通；11-12 断开），同时，检测 S1-S2 状态。当检测到 S1-S2 为接通状态时，保持继电器吸合状态。当检测到 S1-S2 为断开状态时，计时到 15 秒，继电器断开（11-14 断开；11-12 接通），当计时未到 15 秒时，检测到 S1-S2 再次接通时，保持继电器吸合状态，计时器清零。

● Function and parameter：

◇ To protect the dry spring switch from the voltage and current in the loop to damage the dry spring switch. Even under the low voltage (≤ 10 V) and weak current (≤ 1 mA) , it also can cause damage to the dry reed switch.

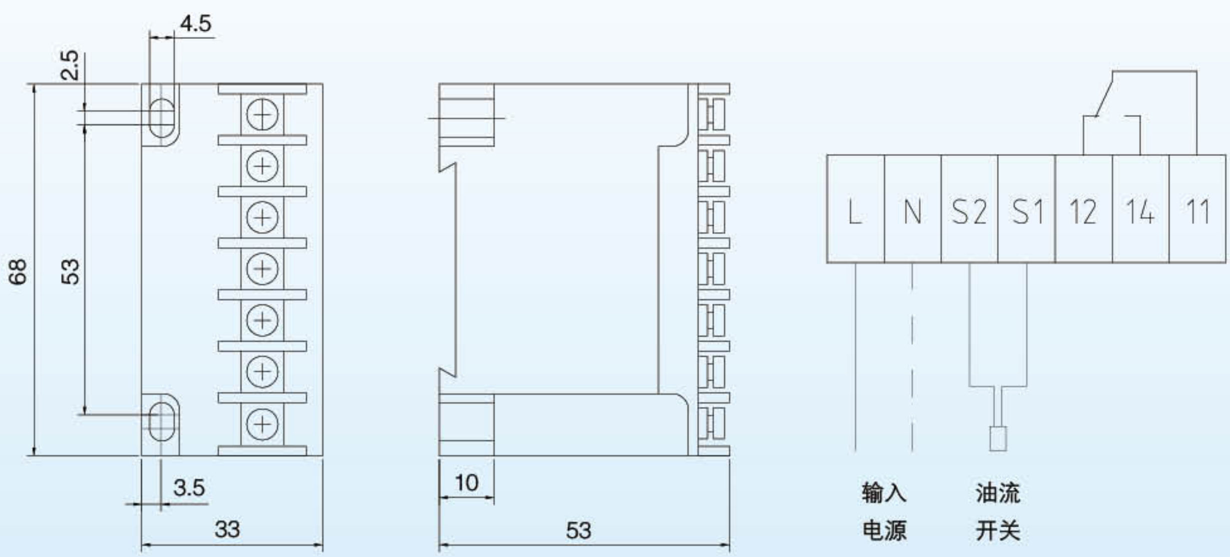
◇ Service voltage:AC 50/60Hz 200...240V ± 10% 3VA

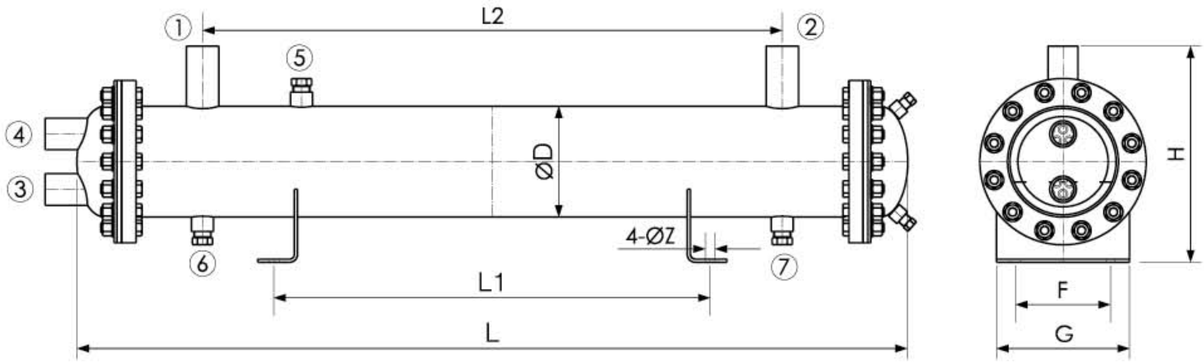
◇ Environment temperature:-30...70℃

◇ Output relay:AC 240V, Max.2.5A,C300

● Working principle:

1、When the control module is powered on, the relay is actuated(11-14 is connected;11-12 is disconnected) , and at the meantime please check the status of S1-S2. When it is checked that the status of S1-S2 is connected, keep the actuation status of the relay. When it is checked that the status of S1-S2 is disconnected, timekeeping for 15 seconds, the relay is disconnected(11-14 is disconnected;11-12 is connected), when the timekeeping is less than 15 seconds, and it is checked that the status of S1-S2 is connected once again, keep the actuation status of the relay, the time-meter will zero clearing.





尺寸 Dimension / 型号 Model		FOI-29B2	FOI-57B2	FOI-86B2	FOI-120B2	FOI-180B2	FOI-200B2
ØD		114	140	140	140	165	219
L		931	1048	1348	1748	1928	1881
L1		450	550	840	1240	1240	1100
L2		634	732	1032	1432	1533	1361
H		257	269	288	288	346	395
G		168	180	180	180	220	290
F		120	120	120	120	160	230
ØZ		12	12	12	12	14	14
技术数据 Technical date							
换热量 Heat exchange capacity	KW	7.00	13.40	20.80	31.70	44.52	77.10
水流量 Water flow	m^3/h	3.0	4.5	6.0	7.5	13.0	18.0
压降 Pressure drop	bar	0.057	0.051	0.100	0.170	0.266	0.098
油流量 Oil flow	m^3/h	0.7	1.4	2.2	3.2	4.8	8.0
油侧内部容积 Internal capacity on the side of oil	L	4.7	8.7	11.6	15.5	23.8	35.0
油侧最大工作压力 The Max. working pressure on the side of oil	bar	29	29	29	29	29	29
水侧最大工作压力 The Max. working pressure on the side of water	bar	10	10	10	10	10	10
参考数据 Reference date							
进水口温度 The water temperature in the inlet	+30℃	出水口温度 The water temperature in the outlet +35℃					
进油口温度 The oil temperature in the inlet	+80℃	出油口温度 The oil temperature in the outlet +60℃					
污垢系数 Scale factor	0						
接口尺寸 Connection dimension							
① 油进口 Oil inlet		1-3/8"ODS	1-3/8"ODS	1-5/8"ODS	1-5/8"ODS	2-1/8"ODS	Ø76×4.0
② 油出口 Oil outlet		1-3/8"ODS	1-3/8"ODS	1-5/8"ODS	1-5/8"ODS	2-1/8"ODS	Ø76×4.0
③ 进水口 Water inlet		G 3/4"	G 1"	G 1-1/4"	G 1-1/4"	G 1-1/4"	G 2"
④ 出水口 Water outlet		G 3/4"	G 1"	G 1-1/4"	G 1-1/4"	G 1-1/4"	G 2"
⑤ 安全阀接口 Safety valve connection		1/2"-14NPT	1/2"-14NPT	1/2"-14NPT	1/2"-14NPT	1/2"-14NPT	1/2"-14NPT
⑥ 排污口 Drain		1/2"-14NPT	1/2"-14NPT	1/2"-14NPT	1/2"-14NPT	1/2"-14NPT	1/2"-14NPT
⑦ 放油口 Oil discharge outlet		1/2"-14NPT	1/2"-14NPT	1/2"-14NPT	1/2"-14NPT	1/2"-14NPT	1/2"-14NPT

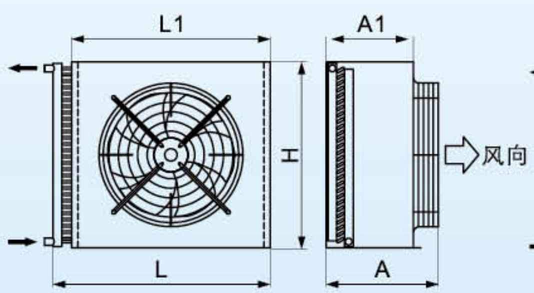
- 输入电压：380V/AC/50Hz
- 合理的管路设计保证了最小的压力降
- 适用矿物冷冻机油（MO）、多元醇酯合成冷冻机油（POE）、烷基苯合成冷冻机油（AB）

- Input voltage: 380V/AC/50Hz
- Reasonable design of the tube line can make sure the minimum pressure drop
- Can be used with mineral oil（MO）、full synthetic（POE）、semi-synthetic lubricant(AB）

型号 Model	油接口尺寸 Oil connection size（Ømm）	电机功率 Motor power（w）	油容积 Oil volume（l）	额定功率 (kw)（空气温度）Nominal capacity in kw（with air admission temperature）			
				27℃	32℃	36℃	43℃
FFO-025	16	90×1	1.3	3.5	3.2	2.9	2.5
FFO-050	22	135×1	1.8	7.0	6.4	5.8	5.0
FFO-100	22	230×1	2.7	11.0	10.5	9.5	8.0
FFO-200	28	420×1	3.9	17.5	16.0	14.5	12.5
FFO-300	28	550×1	5.2	20.5	18.5	17.0	14.0
FFO-400	28	800×1	7.1	31.5	28.5	26.0	22.5
FFO-500	28	550×2	10.4	41.0	37.0	34.0	28.0
FFO-600	28	800×2	14.2	63.0	57.0	52.0	45.0

以上数据基于：油进口温度：+80℃
The data listed above is on the base of the temperature of oil inlet is +80℃

型号 Model	L (mm)	L1 (mm)	A (mm)	A1 (mm)	H (mm)	图例 Fig.
FFO-025	485	420	332	252	393	a
FFO-050	568	500	332	252	444	a
FFO-100	668	600	342	252	545	a
FFO-200	775	700	442	352	647	a
FFO-300	875	800	452	352	749	a
FFO-400	1025	950	452	352	850	a
FFO-500	1625	1550	452	352	749	b
FFO-600	1925	1850	452	352	850	b



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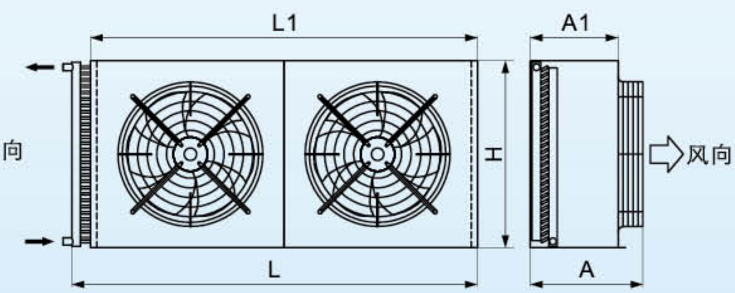
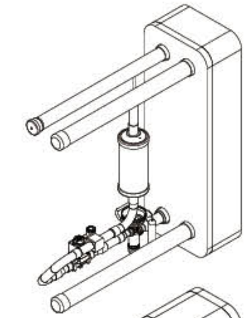
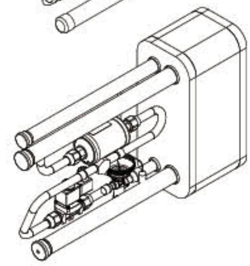


b

HODKV系列经济器是由板式换热器、过滤器、视液镜、电磁阀、膨胀阀5部分组成的，板式换热器保温和全部零件紫铜管连接全部在工厂完成，方便客户现场安装。

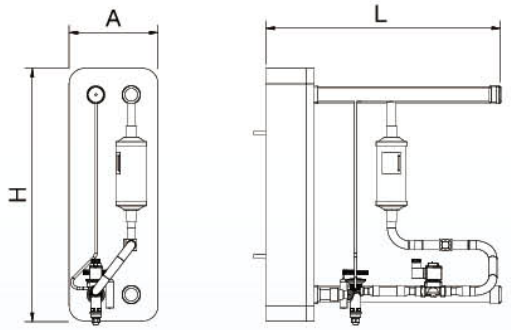
- 标配电磁阀输入：220V/AC/50Hz（如需其它输入请在订单中注明）；
- 标配膨胀阀适用制冷剂：R22、R407C（如需使用其它制冷剂请在订单中注明）。





HODKV Series Economizer is composed by plate heat exchanger, filter,sight glass,solinoid valve and expansion valve. The insulation protection to the palte heat exchanger and copper tube connection to all the spare parts had been finished in our factory, it will be so convenient for customer to assemble it in plant.

- Input of the standard solinoid valve: 220V/AC/50Hz（If you needed other kind of input, please remark clearly in your order.）;
- Applicative refrigerants to the standard expansion valve: R22、R407C（If you needed other kind of refrigerant, please remark clearly in your order）.



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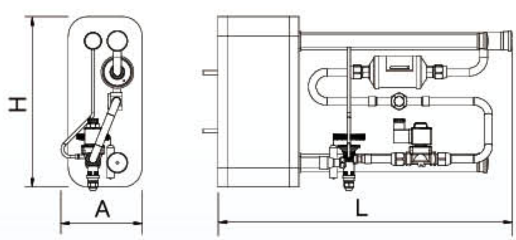


b

型号 Model	接口尺寸 (inch) Conn. size (inch)			外形尺寸 (mm) Outline dimension (mm)			图例 Fig
	Q1(ODF)	Q2(ODF)	Q3(ODF)	L	A	H	
HODKV001	7/8″	7/8″	5/8″	420	145	357	a
HODKV002	1-1/8″	1-1/8″	7/8″	400	175	357	a
HODKV003	1-1/8″	1-1/8″	7/8″	400	175	357	a
HODKV004	1-3/8″	1-3/8″	7/8″	410	175	357	a
HODKV005	1-3/8″	1-3/8″	1-1/8″	570	170	357	b
HODKV006	1-3/8″	1-3/8″	1-1/8″	605	170	357	b
HODKV007	2-1/8″	2-1/8″	1-3/8″	620	251	664	a
HODKV008	2-1/8″	2-1/8″	1-3/8″	640	251	664	a

接口用途 Application of the connections：

Q1：液管进口	Q1：Inlet of the liquid line
Q2：液管出口	Q2：Outlet of the liquid line
Q3：接压缩机经济器（ECO）口	Q3：Connected to the connection（ECO）of the compressor's economizer

HODKV系列经济器选型参数表
HODKV Series Economizer Model Selection Form

型号 Model	经济器温度: +5℃ Economizer temp. 经济器负荷（KW） Economizer load	经济器温度：+0℃ Economizer temp. 经济器负荷（KW） Economizer load	经济器温度：−5℃ Economizer temp. 经济器负荷（KW） Economizer load	经济器温度：−10℃ Economizer temp. 经济器负荷（KW） Economizer load	经济器温度：−15℃ Economizer temp. 经济器负荷（KW） Economizer load	经济器温度：−20℃ Economizer temp. 经济器负荷（KW） Economizer load
HODKV001	6.3~8.9	5.8~8.2	5.3~7.5	4.8~6.8	4.9~6.4	4.5~5.8
HODKV002	9.5~13.3	8.7~12.2	7.9~11.1	7.2~10.1	6.7~9.5	6.0~8.5
HODKV003	12.0~16.9	11.0~15.5	10.1~14.1	9.1~12.8	8.6~12.0	8.3~10.8
HODKV004	14.7~20.6	13.5~18.9	12.3~17.2	11.1~15.6	10.4~14.6	10.0~13.1
HODKV005	19.8~28.3	18.7~26.7	17.4~24.9	16.2~23.1	15.2~21.3	13.8~19.3
HODKV006	27.9~39.8	26.7~38.1	25.2~36.0	23.6~33.7	22.7~31.8	20.6~28.9
HODKV007	39.9~57.0	36.9~52.7	33.8~48.3	30.7~43.9	30.1~39.2	26.9~35.0
HODKV008	46.6~66.6	43.5~62.1	40.3~57.5	36.8~52.6	36.5~47.4	32.7~42.5

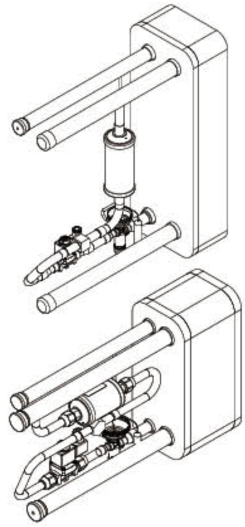
以上数据基于：制冷剂：R22、R407C，冷凝温度：+40℃
The data listed above is on the base of refrigerant R22、R407C, and the condensing temperature +40℃

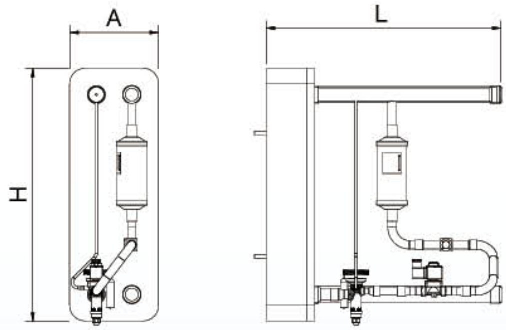
HODKS系列经济器是由板式换热器、过滤器、视液镜、电磁阀、膨胀阀5部分组成的，板式换热器保温和全部零件紫铜管连接全部在工厂完成，方便客户现场安装。

- 标配电磁阀输入：220V/AC/50Hz（如需其它输入请在订单中注明）
- 标配膨胀阀适用制冷剂：R404A，R507A（如需使用其它制冷剂请在订单中注明）

HODKS Series Economizer is composed by plate heat exchanger, filter,sight glass,solinoid valve and expansion valve. The insulation protection to the palte heat exchanger and copper tube connection to all the spare parts had been finished in our factory, it will be so convenient for customer to assemble it in plant.

- Input of the standard solinoid valve: 220V/AC/50Hz (If you needed other kind of input, please remark clearly in your order.) ;
- Applicative refrigerants to the standard expansion valve: R404A, R507A (If you needed other kind of refrigerant, please remark clearly in your order) .





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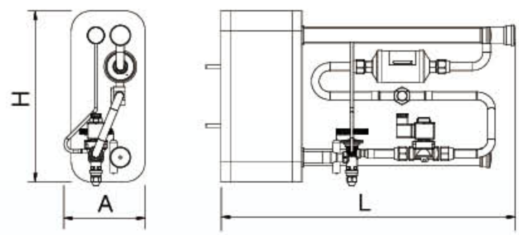


b

型号 Model	接口尺寸 (inch) Conn. size (inch)			外形尺寸 (mm) Outline dimension (mm)			图例 Fig
	Q1(ODF)	Q2(ODF)	Q3(ODF)	L	A	H	
HODKS001	1–1/8″	1–1/8″	7/8″	545	180	357	b
HODKS002	1–3/8″	1–3/8″	7/8″	570	180	357	b
HODKS003	1–3/8″	1–3/8″	1–1/8″	600	180	357	b
HODKS004	1–3/8″	1–3/8″	1–1/8″	523	180	573	a
HODKS005	1–3/8″	1–3/8″	1–1/8″	523	180	573	a
HODKS006	2–1/8″	2–1/8″	1–1/8″	620	247	678	a
HODKS007	2–1/8″	2–1/8″	1–3/8″	620	247	678	a
HODKS008	2–1/8″	2–1/8″	1–5/8″	640	247	678	a
HODKS009	2–1/8″	2–1/8″	1–5/8″	640	247	678	a
HODKS010	2–1/8″	2–1/8″	2–1/8″	710	247	678	a

接口用途 Application of the connections：

Q1：液管进口　　Q1：Inlet of the liquid line

Q2：液管出口　　Q2：Outlet of the liquid line

Q3：接压缩机经济器（ECO）口　　Q3：Connected to the connection（ECO）of the compressor's economizer

HODKS 系列经济器选型参数表
HODKS Series Economizer Model Selection Form

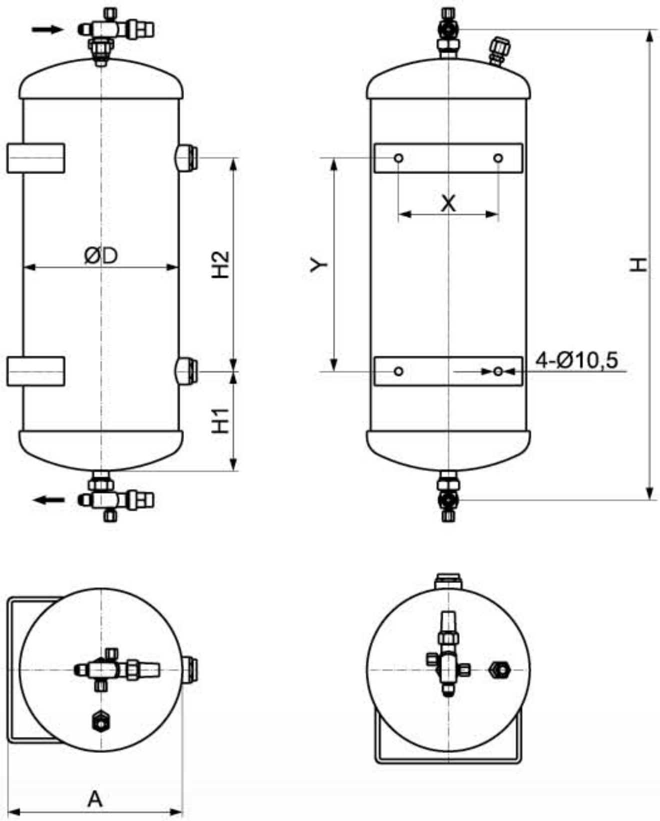
型号 Model	经济器温度 :+5°C Economizer temp. 经济器负荷 (KW) Economizer load	经济器温度 :+0°C Economizer temp. 经济器负荷 (KW) Economizer load	经济器温度 :-5°C Economizer temp. 经济器负荷 (KW) Economizer load	经济器温度 :-10°C Economizer temp. 经济器负荷 (KW) Economizer load	经济器温度 :-15°C Economizer temp. 经济器负荷 (KW) Economizer load	经济器温度 :-20°C Economizer temp. 经济器负荷 (KW) Economizer load
HODKS001	10.2–14.6	9.7–13.8	8.9–12.7	8.2–11.7	7.4–10.6	6.7–9.6
HODKS002	13.5–19.3	12.8–18.3	11.8–16.9	10.9–15.6	9.9–14.1	9.0–12.8
HODKS003	19.0–27.2	18.3–26.2	17.3–24.7	16.1–23.0	14.8–21.1	13.5–19.2
HODKS004	23.1–33.0	21.4–30.6	19.5–27.9	17.6–25.2	15.8–22.6	14.1–20.1
HODKS005	29.2–41.7	27.0–38.6	24.6–35.1	22.1–31.5	19.8–28.2	17.5–25.0
HODKS006	34.2–48.8	31.7–45.3	29.1–41.5	26.3–37.6	23.8–33.9	21.2–30.3
HODKS007	51.0–72.8	46.8–66.9	42.3–60.4	37.8–54.0	33.8–48.2	29.8–42.6
HODKS008	58.0–82.8	53.3–76.1	48.1–68.7	43.0–61.4	38.3–54.7	33.9–48.4
HODKS009	76.5–109.3	70.2–100.3	62.7–89.6	54.8–78.3	47.2–67.4	41.2–58.8
HODKS010	–	–	83.1–108.1	74.0–96.3	65.0–84.5	–

以上数据基于：制冷剂：R404A/R507A，冷凝温度：+40℃
The data listed above is on the base of refrigerant R404A/R507A, and the condensing temperature +40℃

储油器用于储存未蓄留在压缩机曲轴箱内，又不在油分离器中，也不再系统中进行循环的润滑油。在储油器里，所有溶于润滑油中的制冷剂都会被蒸发出来，润滑油同时得到冷却。

强烈推荐供油管路中必须安装FOK系列油过滤器。否则，油中的脏物会导致油位控制器失灵。

- 安装方法：垂直安装；
- 建议储油器下部的出油口高于压缩机视油镜0.5 m安装；
- 储油器上需要安装一个FCV油压差止回阀；
- 设计压力：2.9MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。



FOR Series Oil Reservoir is used for storing the lubricant which have not been remained in the compressor crankcase or not in the oil separator or not in the circulation of the system. Inside of the oil reservoir all the refrigerant which have been melted in the lubricant can be evaporated, and the lubricant will be cooled at the same time.

It is strongly recommended to install FOK series oil filter in the oil feeding line, or the dunghill in the oil will lead to the malfunction of the oil level regulator.

- Installation method: Vertical installation;
- The outlet at the bottom of the oil reservoir must be installed 0.5m higher than the oil sight glass of the compressor;
- It should be installed one piece of FCV-20 oil pressure differential check valve to the oil reservoir;
- The design pressure: 2.9MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.

型号 Model	进、出口尺寸 Inlet/Outlet Size (SAE)	ØD (mm)	H (mm)	H1 (mm)	H2 (mm)	A (mm)	X (mm)	Y (mm)	容积 Volume (l)
FOR-6	3/8″	140	528	93	260	164	45	260	6
FOR-8	3/8″	165	516	106	220	186	80	220	8
FOR-10	3/8″	165	621	109	320	186	80	320	10
FOR-12	3/8″	165	721	139	360	186	80	360	12
FOR-14	3/8″	219	518	135	164	242	140	164	14
FOR-19	1/2″	219	663	140	300	242	140	300	19
FOR-23	1/2″	219	778	138	420	242	140	420	23

储油器用于储存未蓄留在压缩机曲轴箱内，又不在油分离器中，也不再系统中进行循环的润滑油。在储油器里，所有溶于润滑油中的制冷剂都会被蒸发出来，润滑油同时得到冷却。

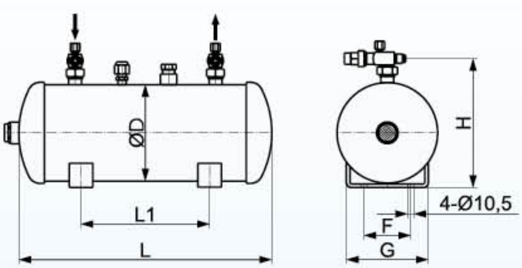
强烈推荐供油管路中必须安装FOK系列油过滤器。否则，油中的脏物会导致油位控制器失灵。

- 安装方法：水平安装。
- 建议储油器底部高于压缩机视油镜0.5 m安装；
- 储油器上需要安装一个FCV油压差止回阀；
- 设计压力：2.9MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

FOW Series Oil Reservoir is used for storing the lubricant which have not been remained in the compressor crankcase or not in the oil separator or not in the circulation of the system. Inside of the oil reservoir all the refrigerant which have been melted in the lubricant can be evaporated, and the lubricant will be cooled at the same time.

It is strongly recommended to install FOK series oil filter in the oil feeding line, or the dunghill in the oil will lead to the malfunction of the oil level regulator.

- Installation method: Horizontal installation;
- The outlet at the bottom of the oil reservoir must be installed 0.5m higher than the oil sight glass of the compressor;
- It should be installed one piece of FCV-20 oil pressure differential check valve to the oil reservoir.
- The design pressure: 2.9MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



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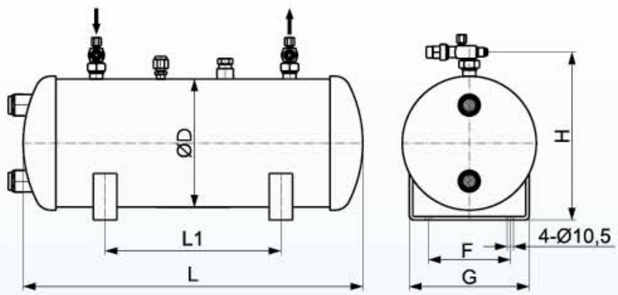

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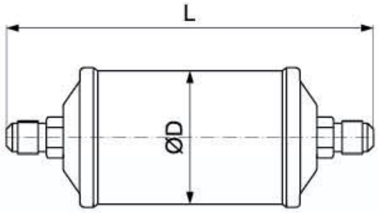
型号 Model	进、出口尺寸 Inlet/Outlet Size (SAE)	ØD (mm)	L (mm)	L1 (mm)	H (mm)	F (mm)	G (mm)	容积 Volume (l)	图例 Fig.
FOW-6	3/8″	165	333	140	223	80	140	6	a
FOW-8	3/8″	165	433	220	223	80	140	8	a
FOW-10	3/8″	165	538	320	223	80	140	10	a
FOW-12	3/8″	165	638	360	223	80	140	12	a
FOW-14	3/8″	219	435	164	278	140	205	14	b
FOW-19	1/2″	219	580	300	278	140	205	19	b
FOW-23	1/2″	219	695	420	278	140	205	23	b

FOK系列油过滤器可以用于所有制冷装置上，滤芯是由非常精密的金属滤网构成的。材料304不锈钢，百褶式设计，具有非常大的过滤面积和非常小的压力降，能用在所有的制冷剂和冷冻油上。

- 最大许可工作压力：31 bar；
- 最高运行温度：120℃；
- 过滤精度：50μm。

FOK series Oil filter can be applied to all kinds of refrigeration equipments. The filter core is composed with quite accurate metal strainer. The material of the filter core is 304 stainless steel, and with the balayruse kind design it has a very wide filtering area and the lowest pressure drop. It can be applied to all kinds of refrigerant and refrigeration oil.

- Max.Admissible Working Pressure: 31 bar;
- The max. running temperature: 120℃;
- Filtering accuracy: 50μm.



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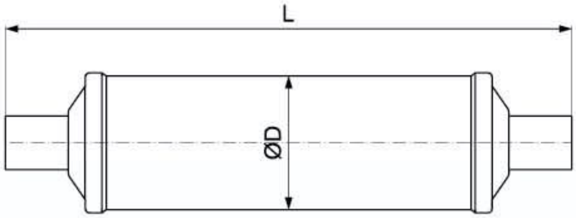


b

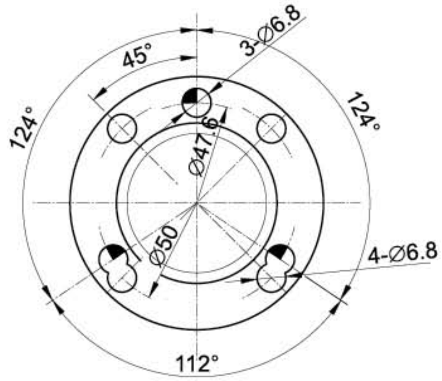
型号 Model	接口尺寸 Joint Size(Inch)	ØD (mm)	L (mm)	图例 Fig.
FOK-02	1/4"SAE	64	159	a
FOK-03	3/8"SAE	64	175	a
FOK-04	1/2"SAE	64	179	a
FOK-05	5/8"SAE	64	256	a
FOK-03S	3/8"ODS	64	156	b
FOK-04S	1/2"ODS	64	156	b
FOK-05S	5/8"ODS	64	230	b
FOK-07S	7/8"ODS	64	242	b
FOK-09S	1-1/8"ODS	64	270	b
FOK-11S	1-3/8"ODS	64	280	b

F-OL系列油位控制器是通过浮球式针阀精确的控制压缩机曲轴箱内油位的，它可以直接或通过相应型号的适配器与各种压缩机连接，并联机组的多台压缩机可以水平方向安装也可以垂直方向安装。

- 最大许可工作压力：31 bar；
- 供油接口尺寸：3/8″ SAE；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- 强烈推荐供油管路中必须安装FOK系列油过滤器。否则，会导致油位控制器失灵。

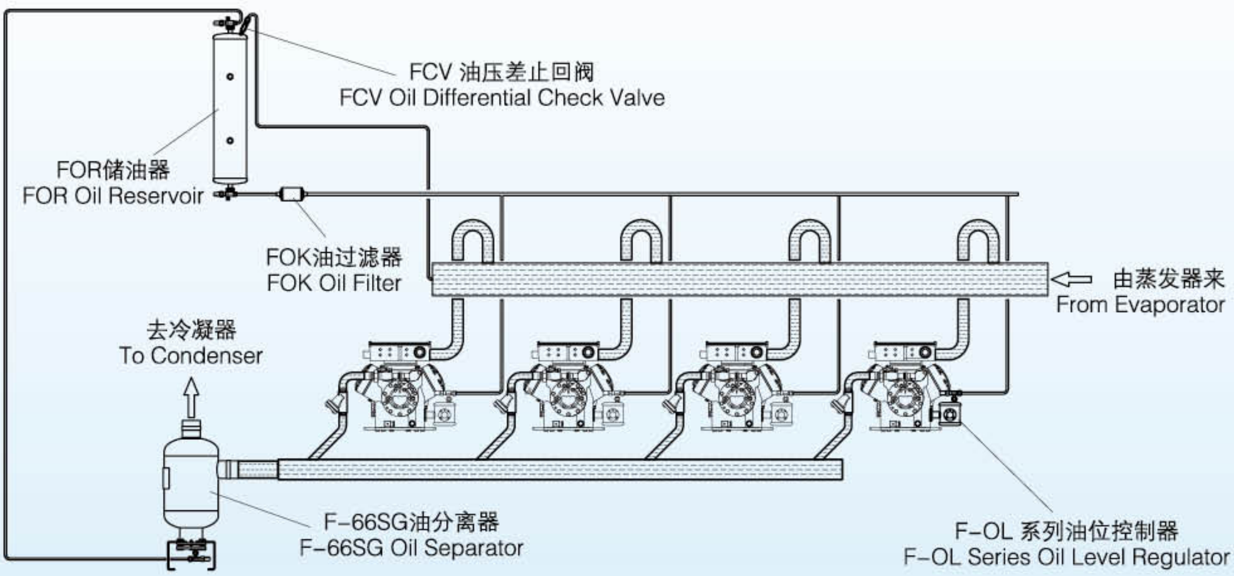
F-OL Series Oil level regulator accurately controls the oil level in compressor crankcase by float charging valve. It can be directly or by using the relevant type of adapter connected with all models of compressors. The compressors in parallel unit can be installed in horizontal direction or vertical direction.

- Max.Admissible Working Pressure: 31 bar;
- Oil-feeding connection dimension: 3/8″ SAE;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- It is strongly recommended to install the FOK series oil filter in the oil feeding line, or the oil level regulator will be unstucked.

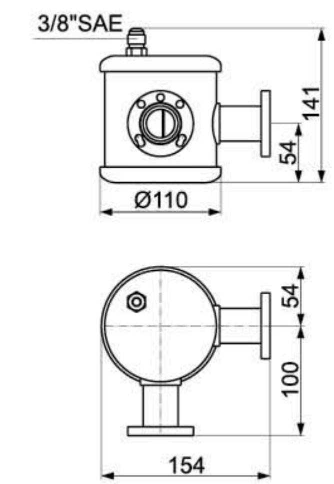


法兰尺寸
Dimension Of The Flange

低压回油系统
Low Pressure Oil Return System



传统的方式以略高于吸气管路压力回油
The traditional method is that to feed the oil slightly higher than the suction line pressure



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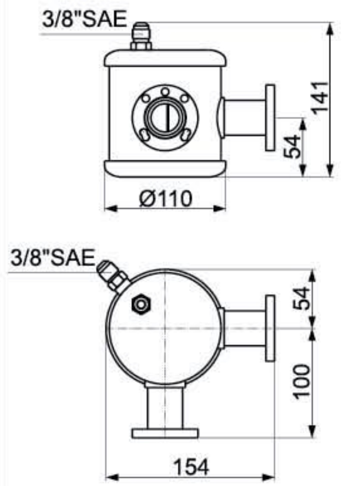

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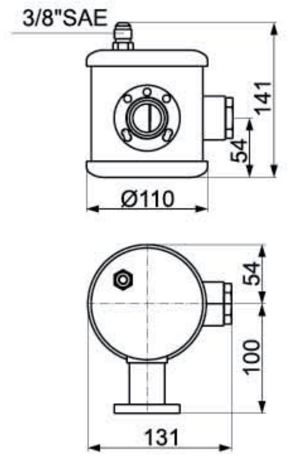

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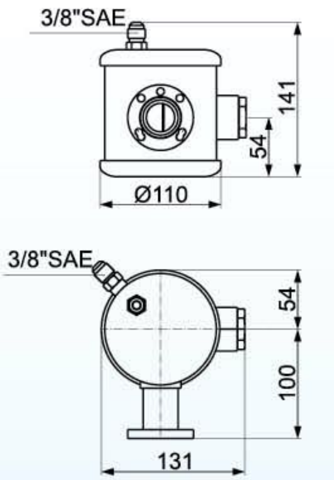

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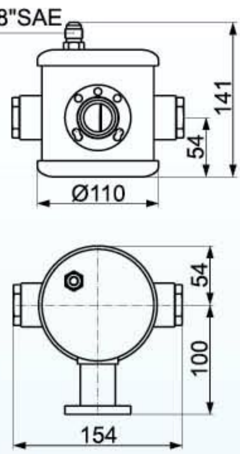

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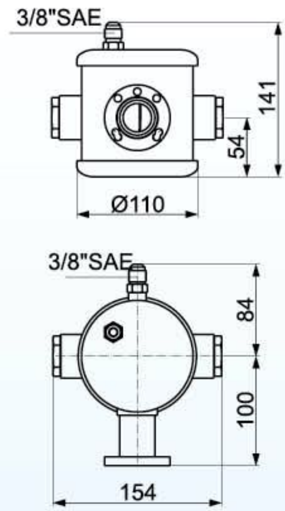


f

型号 Model	形式 Version	在视镜中的油位 Oil level in the sight glass	推荐工作压差 Recommended operating pressure difference (bar)	最大工作压差 Max. adm. working pressure difference (bar)	容积 Volume (l)	图例 Fig
F-OLA-1	不可调节 unadjustable	中间 Center	1.38	4.0	0.8	a
F-OLA-2			1.38	4.0	0.8	b
F-OLB-1			1.38	4.0	0.8	c
F-OLB-2			1.38	4.0	0.8	d
F-OLC-1			1.38	4.0	0.8	e
F-OLC-2			1.38	4.0	0.8	f

FOE系列产品是一款智能型压缩机油位控制器，分为"L"和"I"两个供油形式设计。

"L"供油形式油位控制器，润滑油从喷油口直接喷入压缩机曲轴箱，适用于储油槽为低压区的半封闭活塞式压缩机、全封闭涡旋式压缩机。

"I"供油形式油位控制器，润滑油通过油连接管路喷入压缩机吸气管，适用储油槽为高压区的半封闭涡旋式压缩机、内置油分离器螺杆式压缩机。

- 输输入电压：220VAC/50Hz；
- 最大许可工作压力：31 bar；
- 最高油温：120 ℃；
- 油路电磁阀最高运行压差：21 bar；
- 触点容量：3A/220VAC/50Hz；
- 油接口规格：1/4"SAE；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

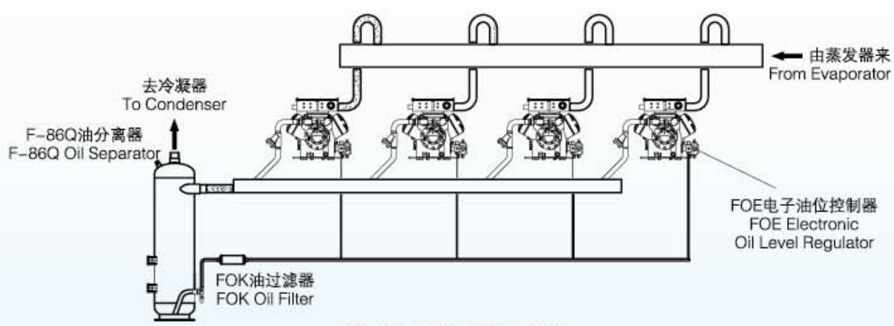
FOE series product is a kind of intelligent oil level regulator for compressor, it is designed with 2 kinds of oil feeding forms : "L" and "I" .

The oil level regulator with "L" oil feeding form :the lubricating oil is sprayed directly into the crankcase of compressor from the oil nozzle, and this oil feeding form is suitable for Semi-hermatic piston compressor and Whole-hermatic scroll compressor whose oil storage tank locates in low-pressure area.

The oil level regulator with "I" oil feeding form: the lubricating oil is sprayed into the suction nozzle of compressor throght by the oil connecting line, and this oil feeding form is suitable for Semi-hermatic scroll compressor and Oil separator built-in screw compressor whose oil storage tank locates in high-pressure area.

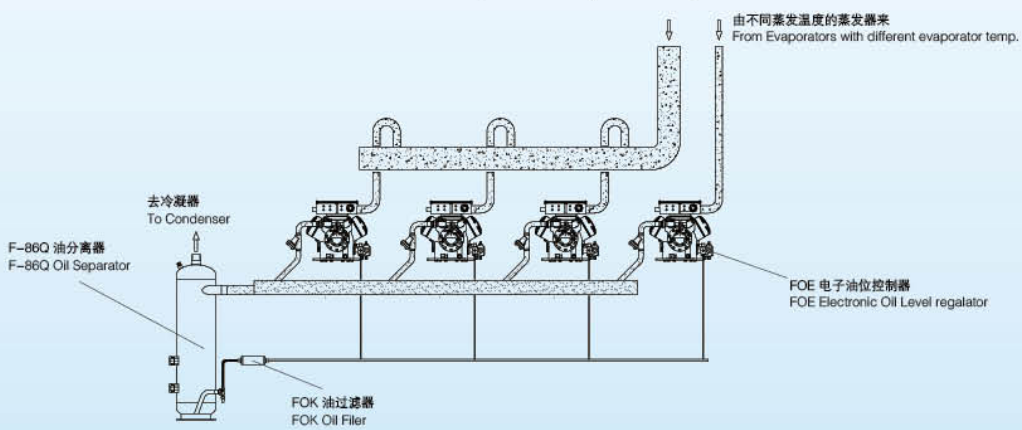
- Input voltage：220VAC/50Hz;
- Max.Admissible Working Pressure: 31 bar;
- Max.oil temperature: 120 ℃;
- Max. Running pressure difference of solinoid valve in oil circuit line: 21 bar;
- Contact capacity: 3A/220VAC/50Hz;
- Oil conn. size: 1/4"SAE;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.

高压回油系统 High Pressure Oil Return System

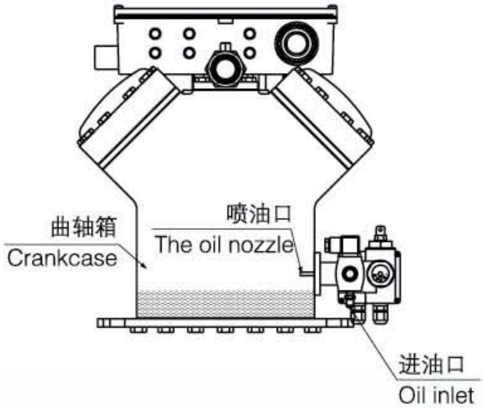


新设计的系统多以排气压力回油
Oil control feeds at discharge pressure in new system

不同蒸发温度系统 Different Evaporator Temperature System

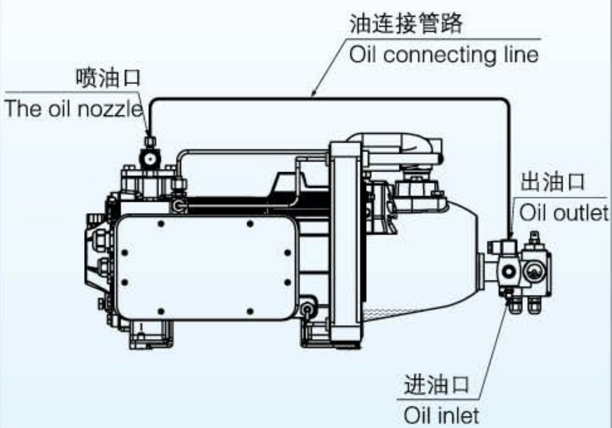


“L”供油形式安装示意图（半封闭活塞式压缩机）
Installation schematic diagram of oil feeding form “L”
（Semi-hermatic piston compressor）

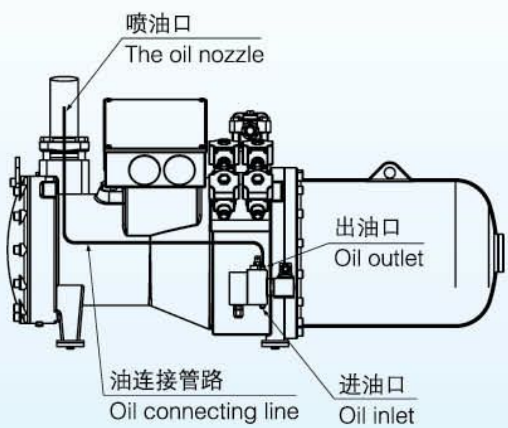


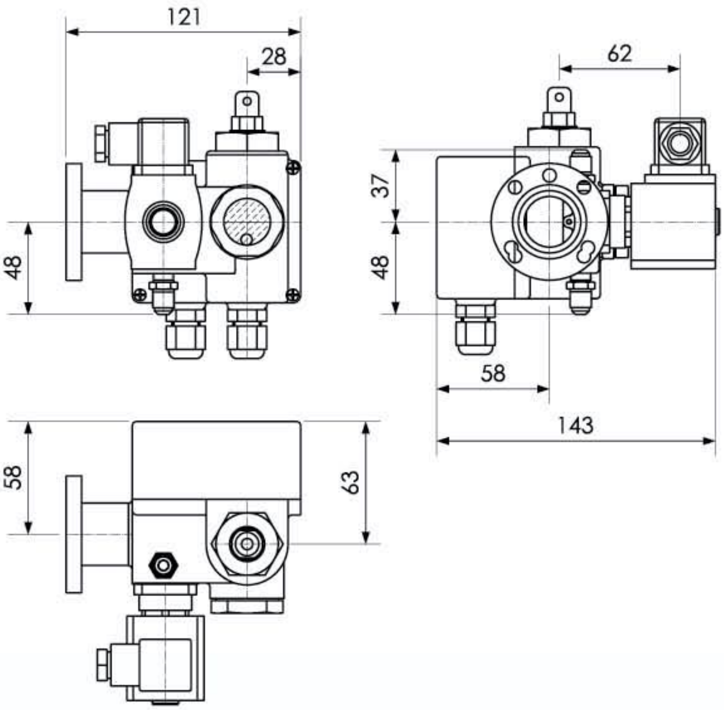
“L”供油形式安装示意图（全封闭涡旋式压缩机）
Installation schematic diagram of oil feeding form “L”
（Whole-hermatic scroll compressor）

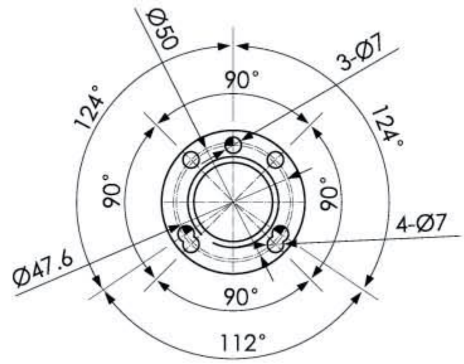
“I”供油形式安装示意图（半封闭涡旋式压缩机）
Installation schematic diagram of oil feeding form “I”
（Semi-hermatic scroll compressor）



“I”供油形式安装示意图（内置油分离器螺杆式压缩机）
Installation schematic diagram of oil feeding form “I”
（Oil separator built-in screw compressor）



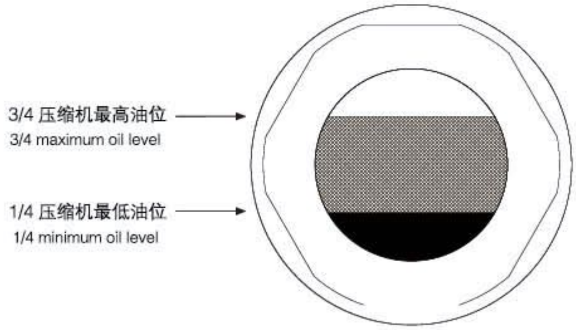




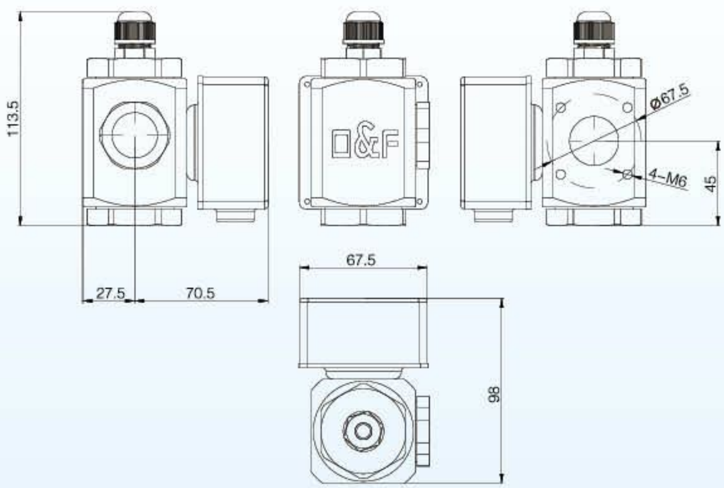
法兰尺寸
Dimension Of The Flange

型 号 Model	适用压缩机 Applicative compressor	报警延时 (s) Alarm time delay	排气温度保护 (℃) Discharge temperature protection	油位感应延时 (s) Oil level reaction time delay	脉冲供油开/停 (s) Pulse oil feeding time delay	供油形式 Oil feeding form
FOE-01	半封闭活塞式 Semi-hermatic piston	120	---	3	10/10	L
FOE-01C	半封闭活塞式 Semi-hermatic piston	120	120	3	10/10	L
FOE-02	全封闭涡旋式 Whole-hermatic scroll	120	---	3	5/10	L
FOE-02C	全封闭涡旋式 Whole-hermatic scroll	120	100	3	5/10	L
FOE-11	半封闭涡旋式 Semi-hermatic scroll	120	---	3	10/10	I
FOE-11C	半封闭涡旋式 Semi-hermatic scroll	120	100	3	10/10	I
FOE-22	内置油分离器螺杆式 Oil separator built-in screw	180	---	5	50/10	I
FOE-22C	内置油分离器螺杆式 Oil separator built-in screw	180	100	5	50/10	I

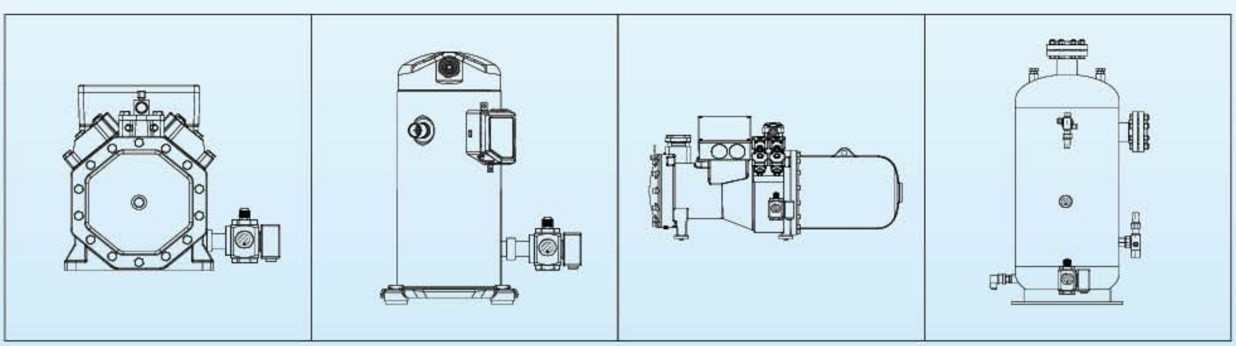
★通过 FSP2 适配器可以方便地和各种压缩机视油镜连接，用于监控压缩机油位。
★ FOO 浮子式油位开关必须水平安装，否则会造成控制失灵。
●输入电压：AC 220V ~ 240V ± 10% 50Hz 3VA
●继电器触点：AC 240V 7A 300VA
●使用环境温度：–30...70℃
●介质温度：最高 +120℃
●适用相对湿度：10 ~ 95%RH（无冷凝）
●最大许可运行压力：3.1 Mpa
●最小液体比重：0.85
●适用制冷剂：R134a,R22,R407C,R404A,R507A



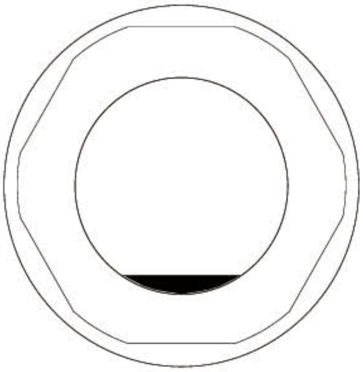
FOO Series Floating-type Oil Level Switch of Compressor
★ It is easily connected to various compressor oil sight glasses via the FSP2 adapter to monitor the compressor oil level.
★ FOO floating-type oil level switch must be installed horizontally without causing control failure.
● Input voltage: AC 220V ~ 240V ± 10% 50Hz 3VA
● The relay contact: AC 240V 7A 300VA
● Use ambient temperature: –30...70℃
● Medium temperature: max. +120℃
● Applicable relative humidity: 10 ~ 95%RH (no condensation)
● Maximum permitted operating pressure: 3.1 Mpa
● Minimum liquid specific gravity: 0.85
● Applicable refrigerant: R134a, R22, R407C, R404A, R507A



应用示意图 Application Diagram



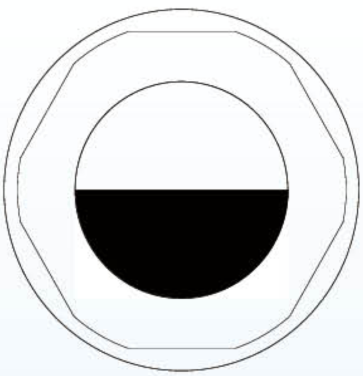
FOO-01



上电后继电器吸合（11–14 接通；11–12 断开），绿色指示灯“亮”，当压缩机油位低于视油镜 1/4 时，延时 60 秒，继电器断开（11–14 断开；11–12 接通），红色指示灯“亮”，绿色指示灯“灭”。
在继电器断开期间，当压缩机油位上升至视油镜 1/4 以上时，延时 3 秒，继电器吸合（11–14 接通；11–12 断开）绿色指示灯“亮”。

After power-on, the relay is energized (11–14 close; 11–12 open), green LED "on", when the compressor oil level is below 1/4 of the oil sight glasses, delay 60 seconds, the relay is de-energized (11–14 open; 11–12 close), red LED "on" and green LED "off".
During the relay de-energized, when the compressor oil level rises above 1/4 of the oil sight glasses, delay 3 seconds, the relay energized (11–14 close; 11–12 open) green LED "on".

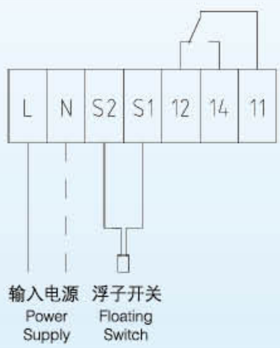
FOO-11



上电后继电器吸合（11–14 接通；11–12 断开），绿色指示灯“亮”，当压缩机油位低于视油镜 1/2 下方 4mm 后，延时 15秒，继电器断开（11–14 断开；11–12 接通），红色指示灯“亮”，绿色指示灯“灭”。
在继电器断开期间，当压缩机油位上升至视油镜 1/2 时，延时 3 秒，继电器吸合（11–14 接通；11–12 断开）绿色指示灯“亮”。

After power-on, the relay is energized (11–14 close; 11–12 open), green LED "on", when the compressor oil level is 4mm below 1/2 of the oil sight glasses, delay 15 seconds, relay is de-energized (11–14 open; 11–12 close), red LED "on", and green LED "off".
During the relay de-energized, when the compressor oil level rises to 1/2 of the oil sight glasses, delay 3 seconds, the relay energized (11–14 close; 11–12 open) green LED "on".

FOO接线图/ wiring diagram



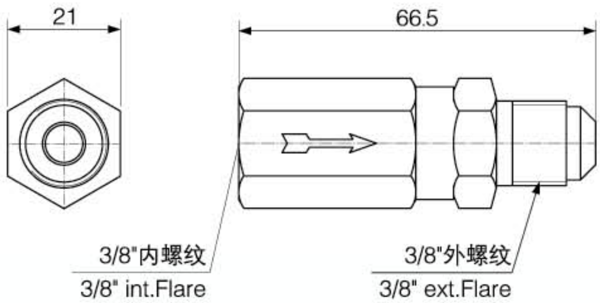
油压差止回阀一端安装在FOR储油器上部的3/8″ SAE接头上。为了使回油有足够的流速，在储油器与压缩机曲轴箱之间必须有一定的压差。这个压差一定要受到控制。

- 在单级压缩的装置上，FCV要装在储油器和吸气管之间；
- 在双级压缩的装置上，FCV要装在储油器和中间压力管之间。

The one side of oil differential check valve is installed on the 3/8” SAE adapter of oil reservoir. There must be some differential pressure between the oil reservoir and the crankcase of compressor in order to have enough velocity of flow when oil is returned. The differential pressure should be controlled.

- The FCV should be installed between the oil reservoir and suction line in the single-stage compressed vessel;
- The FCV should be installed between the oil reservoir and middle pressure pipe in the dual-stage compressed vessel.

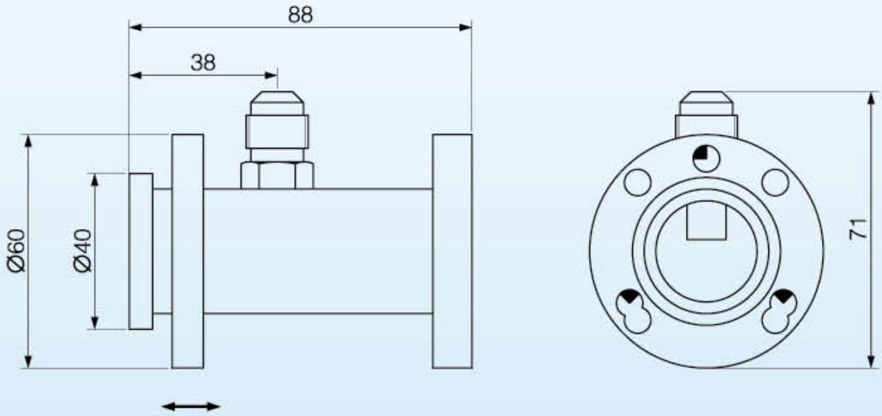
型号 Model	工作压差 Operating Difference Press.	
FCV-05	5 psi	0.34 bar
FCV-10	10 psi	0.69 bar
FCV-20	20 psi	1.38 bar
FCV-30	30 psi	2.07 bar

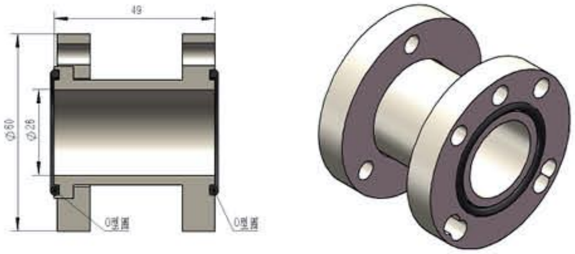


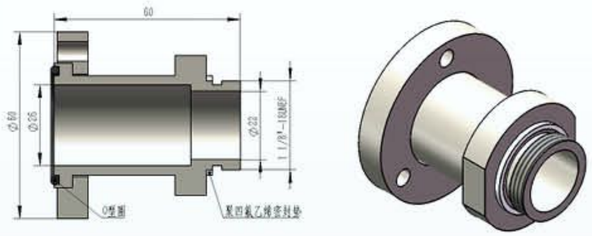
FHQ平衡器 FHQ Balancer

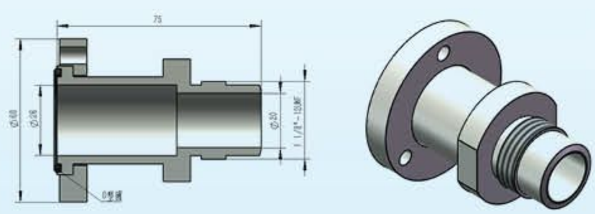
FHQ平衡器带有一个3/8″ SAE接头，它可以使不带平衡接口的油位控制器相互连通（平衡），用很少的成本解决多机并联制冷系统中经常出现的油位不平衡的问题。

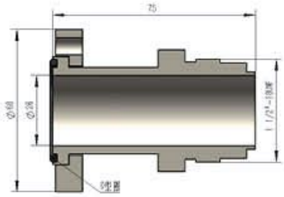
The 3/8″ SAE adapter on the FHQ Balancer is connected mutually between the oil level regulators without the balanced connection. It uses the less cost to settle the unbalanced problems of oil level in the multiple-machine parallel refrigeration system.

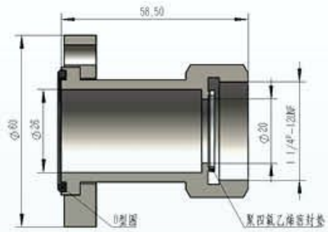
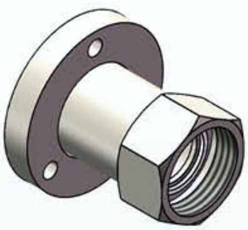


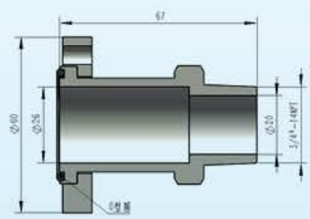
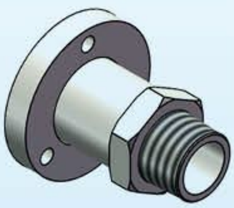
	型号 Model	适配压缩机 Can be used for the compressor
	FSP2-01	1、比泽尔（BITZER）： 4VE,4TE,4PE,4NE,4JE,4HE,4GE,4FE, 6JE,6HE,6GE,6FE,8GE,8FE 2、莱富康（REFCOMP）： SP4H,SP4L,SP6H,SP6L,SP8H.SP8L 3、谷轮（COPELAND）：C 系列 ,3S,4S,6S,4M,6M 4、富士豪（FAASCOLD）： A,B,D,Q,S,V,Z,W 5、基伊埃（GEA）： HG44e,HG56,HG66e,HG88e 6、都灵（DORIN）： H35,H41,H6,H7

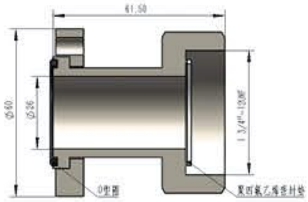
	型号 Model	适配压缩机 Can be used for the compressor
	FSP2-02	1、比泽尔（BITZER）： 2KE,2JE,2HE,2GE,2FE,2EE,2DE,2CE, 4FE,4EE,4DE,4CE,4BE 2、莱富康（REFCOMP）： SP2H,HP2L, 3、丹佛斯（DANFOSS）：MT,LT 4、基伊埃（GEA）： HE22e,HE34e 5、都灵（DORIN）： H11,H2,H33,H35

	型号 Model	适配压缩机 Can be used for the compressor
	FSP2-03	1、谷轮（DWM COPELAND）： DK,DL,DN 2、谷轮（COPELAND）：E,K,L,N

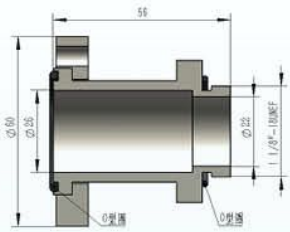
	型号 Model	适配压缩机 Can be used for the compressor
 	FSP2-04	1、开利（CARRIER）：DA,DR,5F,5H,6D,6E 2、三洋/松下（SANYO/PANASONIC）：10HP,15HP

	型号 Model	适配压缩机 Can be used for the compressor
 	FSP2-05	艾默生（EMERSON）： ZB15～ZB48,ZB50,ZB58,ZB66,ZB76,ZB95,ZB114, ZBD21 ～ ZBD45 ZF06～ZF49,ZFI20～ZFI68,ZSI06～ZSI21

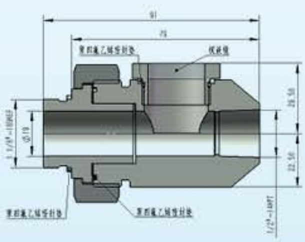
	型号 Model	适配压缩机 Can be used for the compressor
 	FSP2-06	艾默生（EMERSON）： ZB15K～ZB92K,ZS15K～ZS92K,ZF09K ～ ZF48K

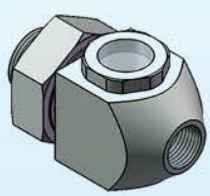


型号 Model	适配压缩机 Can be used for the compressor
FSP2-07	艾默生（EMERSON）：ZB130,ZB150,ZB190,ZB220,ZR90K ~ ZR19M



型号 Model	适配压缩机 Can be used for the compressor
FSP2-08	丹佛斯（DANFOSS）：MLM,MLZ





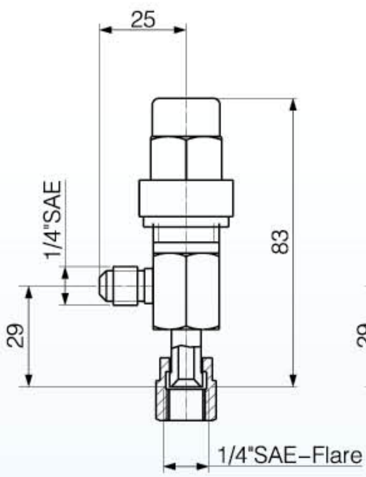
型号 Model	适配压缩机 Can be used for the compressor
FSP2-09	欧达法斯克（O&F）容器液位 / 油位检测

F-S系列油路截止阀可安装在油分离器回油接头、油位控制器回油接头和油位控制器油平衡接头上，还可以安装在FHQ平衡器和FOK油过滤器上。

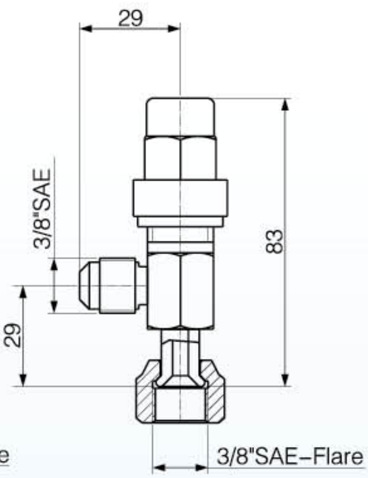
系统需要维修时，F-S阀可以隔离任意一段油管路，使其他压缩机能够正常工作。每个F-S阀都设计了可以360° 旋转的接口，可方便的安装在油管路上。

F-S Series cut-off valve of oil circuit can be assembled to the oil return adapter of oil separator and oil level regulator, and it also can be assembled to the oil equalizing adapter of the oil level regulator, and can be assembled to the FHQ balancer and the FOK oil filter.

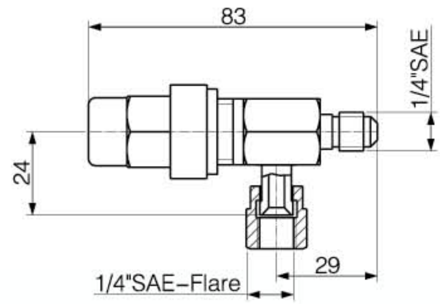
F-S Series cut-off valve can separate any one group oil pipeline when the system requires the maintenance in order to make other compressors normally work. It has a connection which can rotate with 360° , so it can be assembled into the oil circuit conveniently.



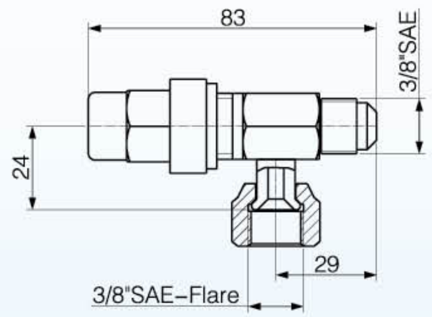
F-S1



F-S3



F-S2



F-S4

型号 Model	A	B	安装方式 Installation method
F-S1	1/4"SAE阳接头 1/4"SAE male adapter	1/4"SAE阴接头 1/4"SAE female adapter	立式 Vertical
F-S2	1/4"SAE阴接头 1/4"SAE female adapter	1/4"SAE阳接头 1/4"SAE male adapter	卧式 Horizontal
F-S3	3/8"SAE阳接头 3/8"SAE male adapter	3/8"SAE阴接头 3/8"SAE female adapter	立式 Vertical
F-S4	3/8"SAE阴接头 3/8"SAE female adapter	3/8"SAE阳接头 3/8"SAE male adapter	卧式 Horizontal

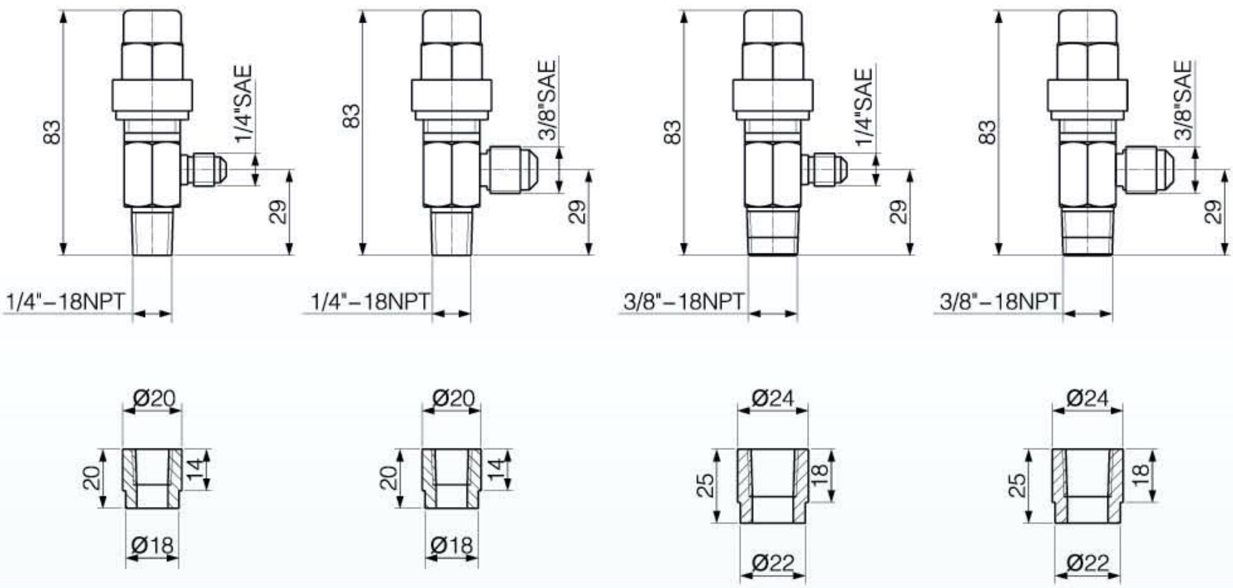
F-T系列检修阀 F-T Series Service Valve

F-T系列检修阀安装在制冷压缩机组吸气管路、排气管路和油管路上，通过它可以方便的检测每一段管道的压力。截止阀标配一个可以焊接在管路上的钢制NPT阀座（阴螺纹接头）。

F-T系列检修阀可以为检修压力表、压力控制器、压力传感器等元件提供方便，同时可以在维修设备时连接真空泵。

F-T Series Service Valve can be assembled in the suction line and the discharge line and the oil line of the refrigeration compressor unit. You can inspect the pressure of each section of the line conveniently by using this valve. And there is a steel NPT valve seat (female thread adapter) to this valve.

F-T Series Service Valve can supply the maintenance service to the manometer and the pressure controller and the pressure sensor conveniently, and at the same time it can be connected with the vacuum pump during maintenance the equipment.



a b c d

型号 Model	A	B	图例 Fig.
F-T1	1/4"SAE	1/4"-18NPT	a
F-T2	3/8"SAE	1/4"-18NPT	b
F-T3	1/4"SAE	3/8"-18NPT	c
F-T4	3/8"SAE	3/8"-18NPT	d

FYW系列液位计壳体使用坚固的无缝钢管制作，装有带红色浮球的视镜，每一个视镜之间的距离为120mm。液位计上部和下部各装有一个检修阀。

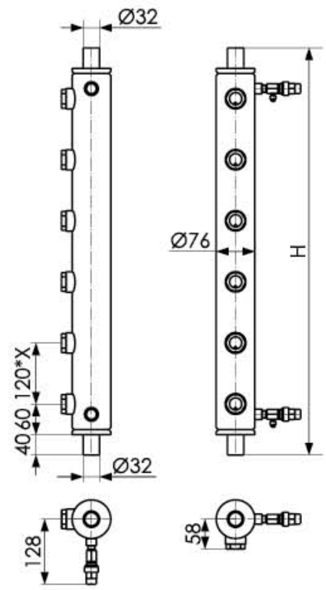
通过管路将液位计上接口和下接口与容器气相截止阀和液相截止阀连接，液位计可准确的显示容器内液面的位置。

- 最大许可工作压力：31bar；
- 许可工作温度：+90℃～-40℃；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

The shell body of FYW Series Liquid Level Meter is made by solid seamless steel tube, it is equipped with sight glass who has red floating ball inside. The distance between each sight glass is 120 mm, It is installed with service valves on the top amd bottom of it.

Connecting the top conn. and bottom conn.to the gas cut-off valve and liquid cut-off valve of the vessel product through by the pipeline. It will show you the accurate liquid level position inside of the vessel product.

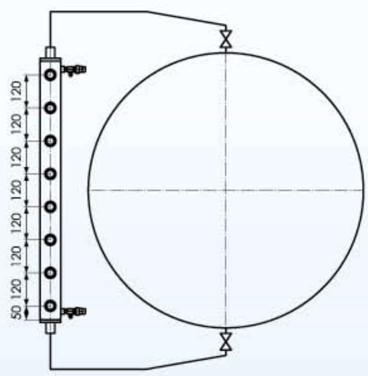
- The max.addmissible operating pressure: 31bar;
- Admissible working temperature: +90℃～-40℃;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



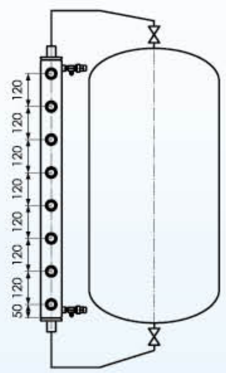
型号 Model	FYW-04(F50)	FYW-06(F50)	FYW-08(F50)	FYW-10(F50)	FYW-12(F50)	FYW-14(F50)	FYW-16(F50)
H (mm)	560	800	1040	1280	1520	1760	2000

备注：型号中带有（F50）的产品上安装的是带防霜保护的视液镜，用于存储低温制冷剂容器。

Remark: The product whose model with F50 is assembled with frost protection sight glass, it can be used for the vessel who uses the low temperature refrigerants.

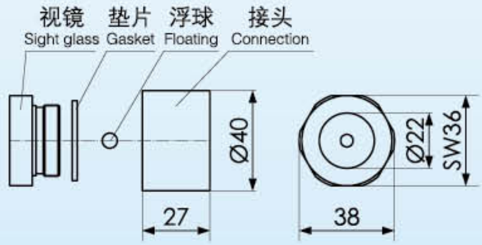


卧式容器 Horizontal Vessel

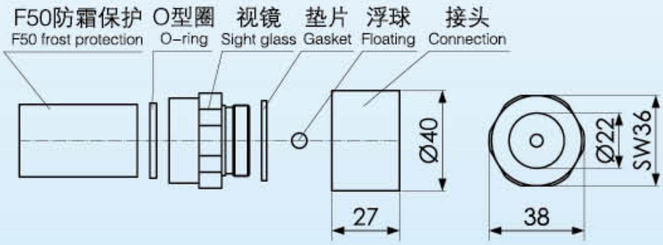


立式容器 Vertical Vessel

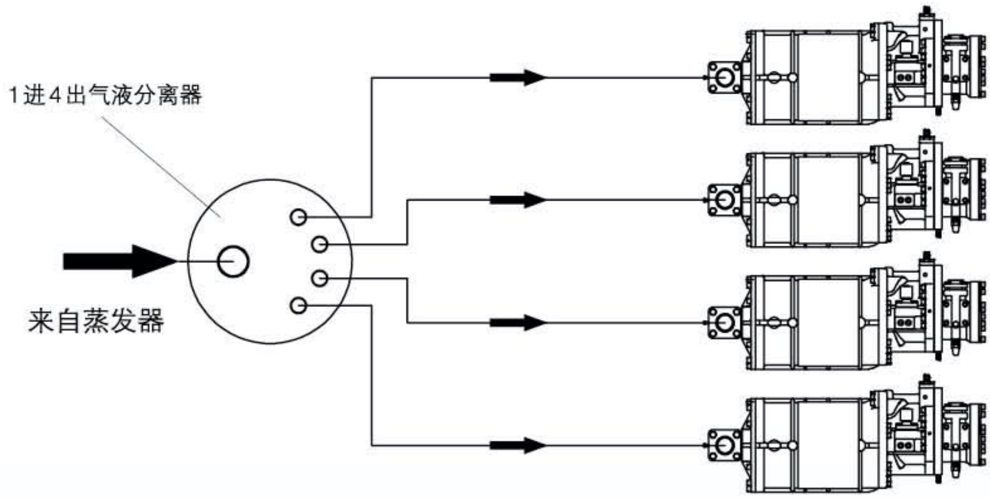
不带防霜功能视镜
Without frost protection sight glass



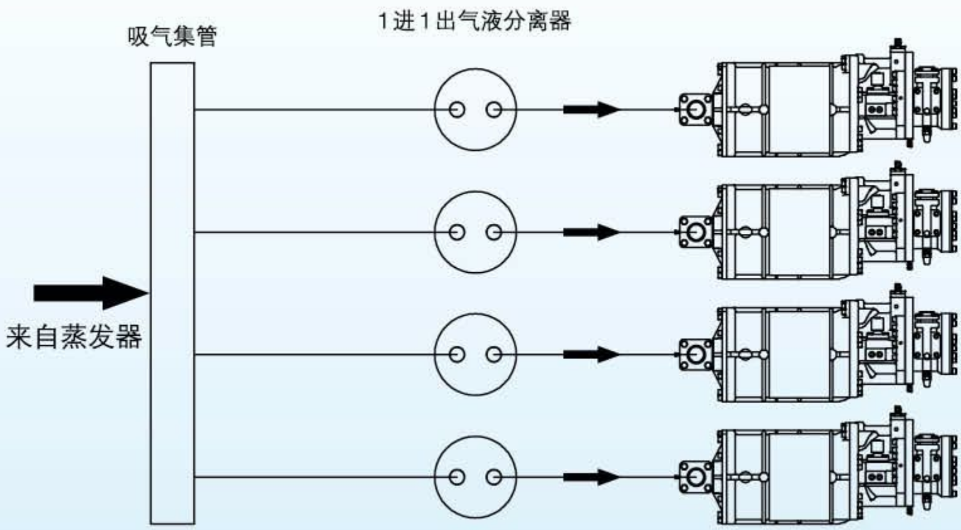
带防霜功能视镜
Frost protection sight glass



装设气液分离器的二种形式



最佳设计



一般设计

在制冷装置中安装气液分离器是用于避免在蒸发器中没有过热的制冷剂蒸汽进入压缩机，导致压缩机湿压缩（液击）。导致压缩机发生湿压缩（液击）的原因有：

●管路安装不当；　●蒸发器容量不足；　●膨胀阀选型错误；　●冷媒充注量过大；

●蒸发器结霜过厚；　●蒸发器风机不运转；　●吸气管绝热不够且环境温度很低；

对于合理选择气液分离器，以下几点必须注意：

1、强烈推荐在蒸发温度低于 -15℃的制冷装置中请选择回热型气液分离器；

2、气液分离器 U 型垂直上升管内流速不得小于 7.5 m/s，以保证良好的回油；

3、气液分离器 U 型垂直上升管内流速不得大于 12 m/s，避免出现不合理的压损，特别是低蒸发温度系统；

4、制冷机组若采用容量控制，应考虑 U 型垂直上升管内流速始终处在 7.5 ~ 12 m/s 之间；

5、对于并联压缩机组，请选择多吸气管气液分离器（若需要可与 O&F 技术部联系）。每根吸气管对应一台压缩机，以保证每一台压缩机都能获得一个相同的流速。

6、安装方法：垂直安装

7、安装气液分离器须尽量靠近压缩机的吸气口

Installing accumulator in the refrigeration system can prevent the refrigerants in the evaporator which is without overheating entering into the compressor. It will avoid wet compression of the compressor(Slugging).

The causes which will lead to wet compression of compressor (Slugging) as below:

● Wrong installation of the pipe line;　● Insufficient capacity in the evaporator;

● Wrong model selection to the expansion valve;　● Overfull charging volume of refrigerant;

● Too thick frost on the evaporator;　● The fan of the evaporator doesn't work;

● Inadequate insulation to the suction pipe and the ambient temperature is too low;

Be attention to these items when you model selection the accumulator:

1、It is strongly recommended to use the accumulator who has heating function when the evaporating temperature is lower than -15℃ .

2、The flow speed inside of the vertical uplifted U tube of the accumulator can not be lower than 7.5 m/s, which will guarantee the perfect oil return.

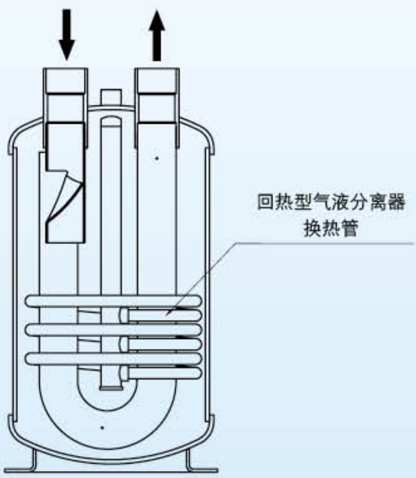
3、The flow speed inside of the vertical uplifted U tube of the accumulator can not be higher than 12 m/s, which will avoid unreasonable pressure lost, especially to the low-evaporating temperature system.

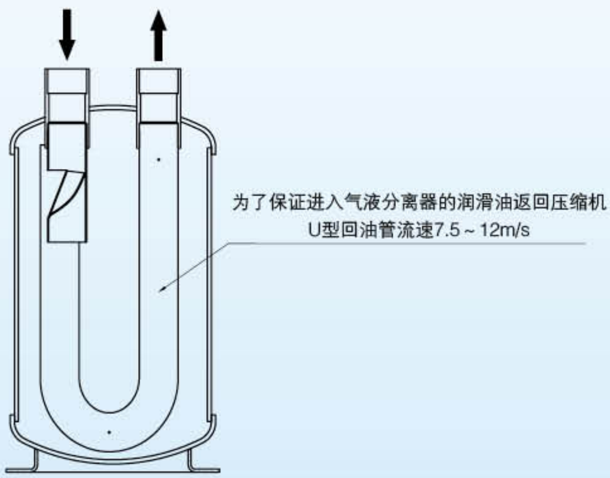
4、If the refrigeration unit took volume control, the flow speed inside of the vertical uplifted U tube of the accumulator shall kept to be 7.5 ~ 12 m/s.

5、To the parallel unit, we recommend to use the accumulator with many suction pipes(if needed please contact with O&F technology department). Each suction pipe will be connected to one piece of compressor, which will guarantee each piece of compressor can get the same flow speed.

6、Installation method:Vertical installation.

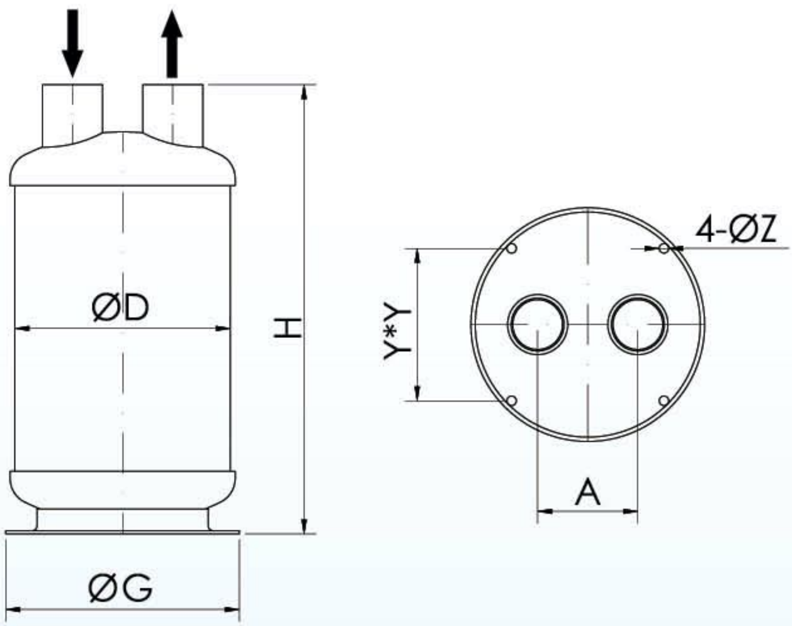
7、Do please install the accumulator as close to the suction connection of the compressor as possible.





●气液分离器安装采用稳定的裙座式设计；
●进出口为坚固的碳钢接口；
●设计压力：2.5MPa；
●适用制冷剂：R134a,R22,R407C,R404A,R507A，R410A；

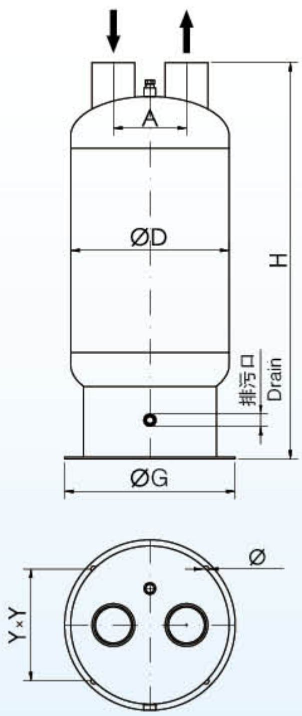
● The installation base of the accumulator is skirt-structure design;
● The inlet and outlet are made by stable carbon steel;
● Design pressure:2.5 MPa;
● Applicable refrigerant: R134a, R22, R407C, R404A, R507A,R410A;



型号 Model	ODS接口 铜管 DOS Conn.copper tube (Inch)	对焊接口 钢管 Butt-jonted steel tube (mm)	ØD (mm)	H (mm)	A (mm)	ØG (mm)	Y (mm)	ØZ (mm)	容积 Volume (l)
FA2-204	1/2"	------	102	263	54	140	86	8.5	1.6
FA2-205	5/8"	------	102	338	54	140	86	8.5	2.0
FA2-206	3/4"	------	140	344	80	160	96	9.0	4.0
FA2-207	7/8"	Ø25×2.5	140	414	81	160	96	9.0	5.0
FA2-208	1-1/8"	Ø32×3.0	165	486	79	190	120	9.0	8.0
FA2-209	1-3/8"	Ø38×3.0	165	601	83	190	120	9.0	10.0
FA2-210	1-5/8"	Ø45×3.0	219	552	110	250	155	12	16.0
FA2-221	2-1/8"	Ø57×3.5	273	560	127	296	193	12	24.0
FA2-225	2-5/8"	Ø76×4.0	273	669	127	296	193	12	29.5

● FA2-231,FA2-234 气液分离器安装采用稳定的裙座式设计；
● FA2-242,FA2-250,FA2-269 气液分离器安装采用轻便的支承式支腿设计；
●设计了排污口，可方便地把进入气液分离器内的脏物排出；
●进出口为坚固的碳钢接口；
● FA2-231,FA2-234,FA2-242 设计压力：2.5MPa；
● FA2-250,FA2-269 设计压力：2.2MPa；
●适用制冷剂：适用制冷剂：R134a,R22,R407C,R404A,R507A，R410A；

● The installation base of FA2-231 and FA2-234 is stable skirt-structure design;
● The installation method of FA2-242、FA2-250 and FA2-269 is portable supporting landing legs;
● It is designed with drain outlet with which the dirty impurities can be discharged out from the accumulator expediently ;
● The inlet and outlet are made by stable carbon steel;
● FA2-231,FA2-234,FA2-242 Design pressure:2.5MPa;
● FA2-250,FA2-269 Design pressure:2.2MPa;
● Applicable refrigerant: R134a, R22, R407C, R404A, R507A,R410A;



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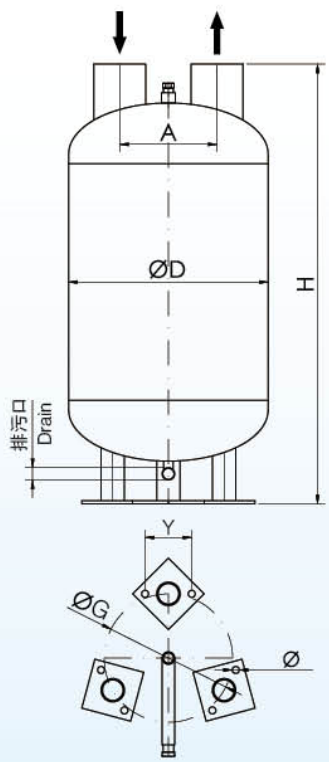
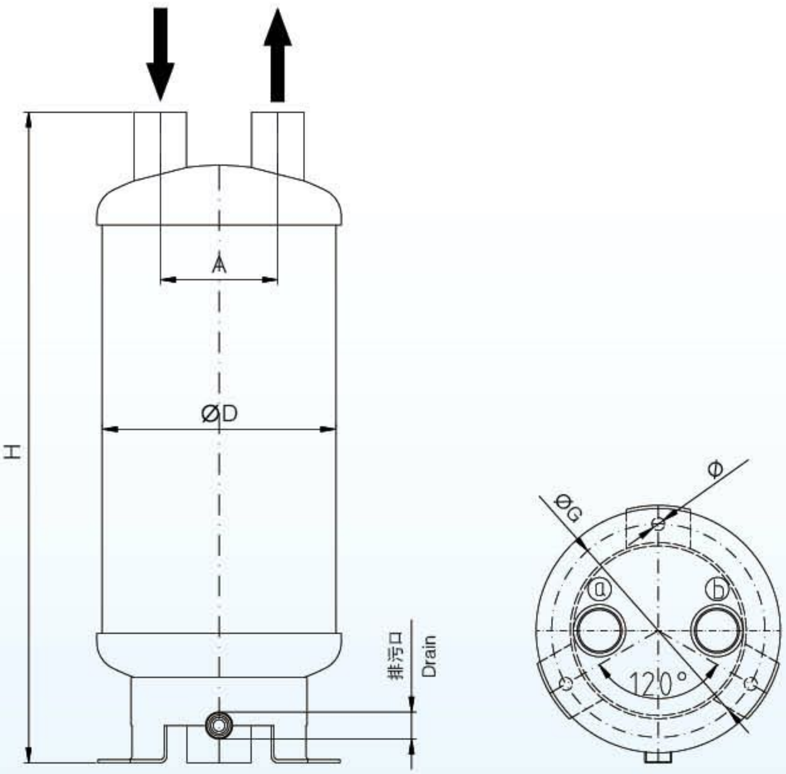


b

型号 Model	对焊接口 钢管 Butt-jonted steel tube (mm)	ØD (mm)	H (mm)	A (mm)	ØG (mm)	Y (mm)	ØZ (mm)	容积 Volume (l)	安全阀接口 Conn.for Safety valve	图例 Fig.
FA2-231	Ø89×4.0 BW	325	814	150	350	230	13	43.0	3/8″ NPT	a
FA2-234	Ø108×4.0 BW	412	907	190	440	290	14	80.0	1/2″ NPT	a
FA2-242	Ø133×4.0 BW	512	1129	250	330	120	20	162.0	1/2″ NPT	b
FA2-250	Ø159×4.5 BW	712	1642	320	460	135	20	450.0	1/2″ NPT	b
FA2-269	Ø219×6.0 BW	916	1906	420	580	160	20	890.0	3/4″ NPT	b

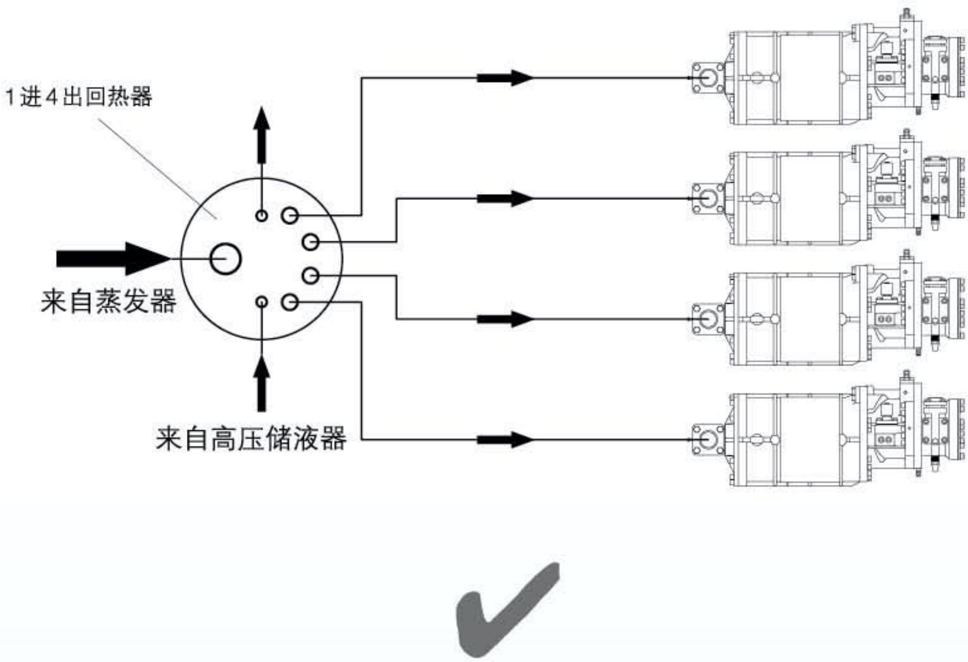
●气液分离器安装采用稳定的支座式设计；
●进出口为坚固的碳钢接口；
●产品上设计了排污口，可以便捷排出来自蒸发器和回气管道中不良杂质；
●最大许可工作压力：2.5MPa；
●适用制冷剂：R134a,R22,R407C,R404A,R507A,R410A；

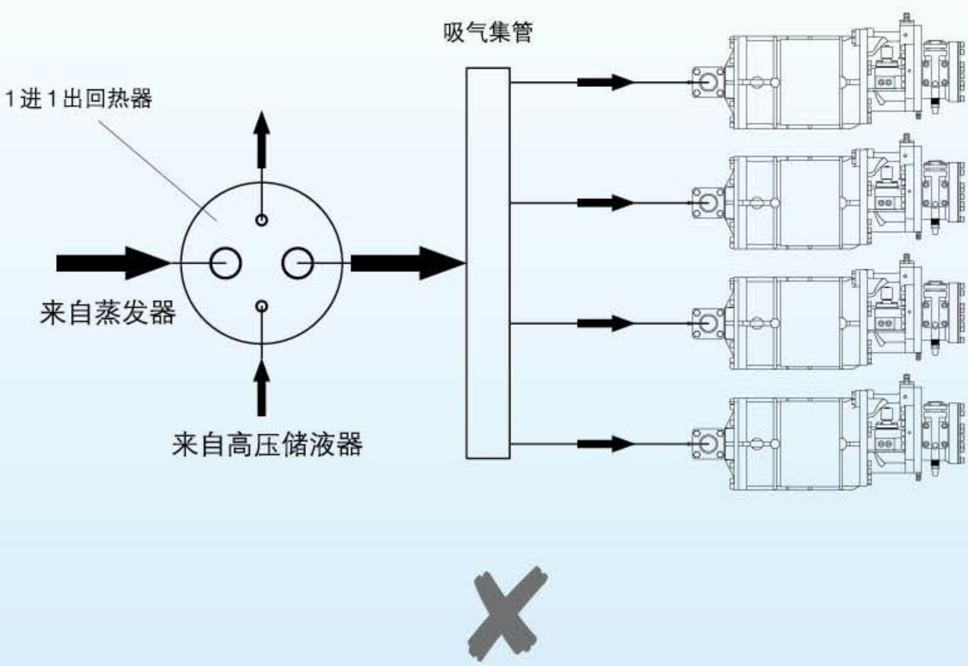
● This accumulator with a stable support pedestal design for installation;
● The inlet and outlet are made by strong carbon steel;
● With the dirt drain outlet, which can easily drain dirt and bad impurities coming from the evaporator and gas return line;
● Maximum allowable working pressure:2.5 MPa;
● Applicable refrigerant: R134a, R22, R407C, R404A, R507A, R410A;



型号 Model	接口尺寸 Joint Size (inch)	ØD (mm)	ØH (mm)	ØA (mm)	ØG (mm)	ØZ (mm)	容积 Volume (l)	排污口 Drain Outlet
FAB-207	7/8″	140	475	81	150	9.0	5.0	1″ -14UNS
FAB-208	1-1/8″	165	534	79	175	9.0	8.0	1″ -14UNS
FAB-209	1-3/8″	165	649	83	175	9.0	10.0	1″ -14UNS
FAB-210	1-5/8″	219	610	110	200	12.0	16.0	1″ -14UNS
FAB-221	2-1/8″	273	612	127	255	12.0	24.0	1″ -14UNS
FAB-225	2-5/8″	273	722	127	255	12.0	29.0	1″ -14UNS

回热器的安装





FAS 系列回热型气液分离器 FAS Series Accumulator with heat exchanger

● FAS 系列回热型气液分离器是一款专门为冷库制冷系统设计的产品；

●利用回气管路中低温制冷剂蒸汽给供液过冷，可有效地避免膨胀阀前出现闪发气体；

●过冷后的供液管需要进行保温。

●利用供液热量使气液分离器内制冷剂蒸汽合理过热，避免压缩机液击；

●产品上设计了排污口，可以便捷排出来自蒸发器和回气管道中不良杂质；

●气管最大许可工作压力：2.5MPa；

●液管最大许可工作压力：3.1MPa；

●适用制冷剂：R134a,R22,R407C,R404A,R507A。

● FAS series gas-liquid separator with heat exchanger is a product specially designed for the cold storage refrigeration system.

● Use low temperature refrigerant vapor in the gas return line to subcool the supply liquid, it can effectively avoid the flash gas before the expansion valve.

● Subcooled liquid supply pipes need to be insulated.

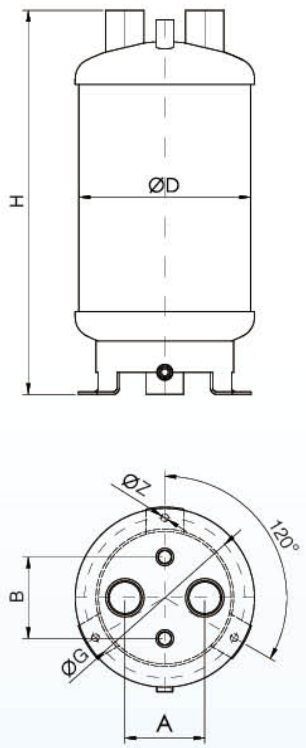
● Use the supply liquid refrigerant to warm the return gas with a reasonable superheat and to protect the compressor from slugging with liquid.

● With the dirt drain outlet, which can easily drain dirt and bad impurities coming from the evaporator and gas return line;

● Maximum allowable working pressure of gas side: 2.5MPa;

● Maximum allowable working pressure of liquid side: 3.1MPa;

● Applicative refrigerants: R134a, R22, R407C, R404A, R507A;



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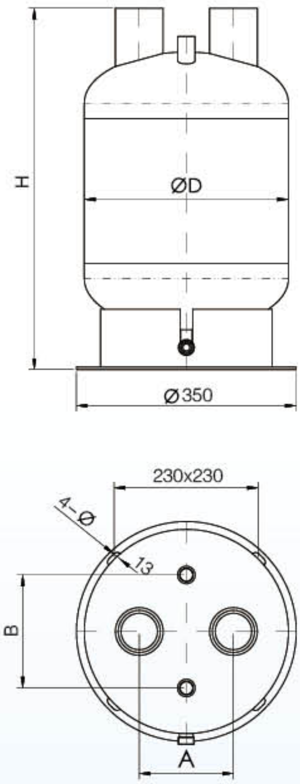
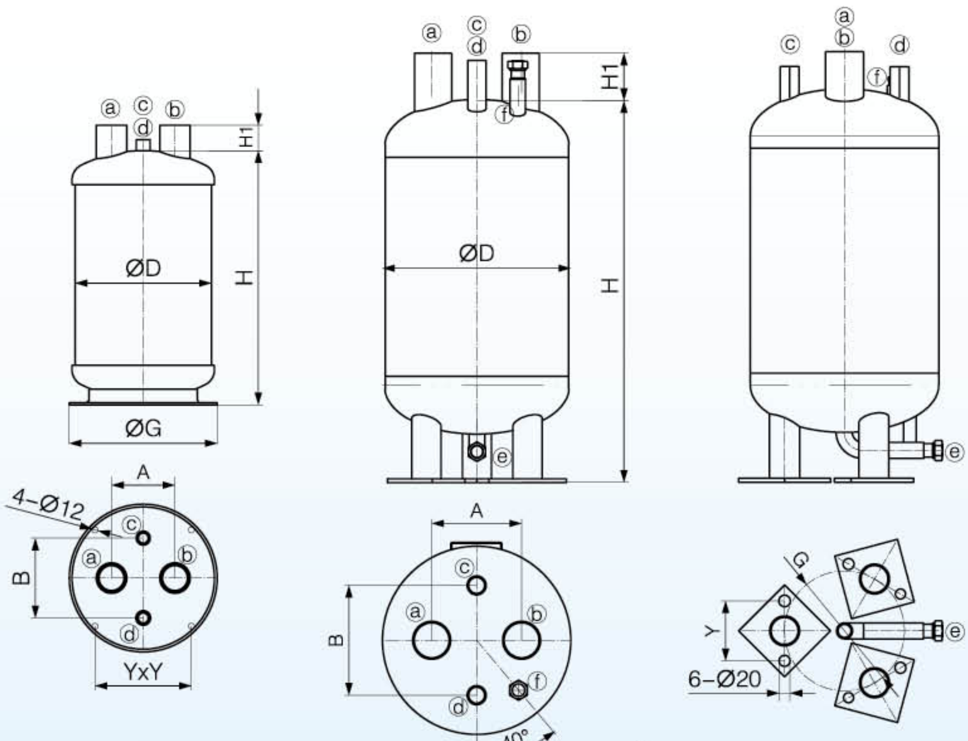


b

型号 Model	气管 Suction Pipe	液管 Liquid Pipe	ØD (mm)	ØH (mm)	ØA (mm)	ØB (mm)	ØG (mm)	ØZ (mm)	容积 Volume (l)	排污口 Drain Outlet	图例 Fig
FAS-2210	7/8″	3/8″	140	475	81	90	150	9.0	5.0	1″ -14UNS	a
FAS-2810	1-1/8″	3/8″	165	534	79	100	175	9.0	8.0	1″ -14UNS	a
FAS-2812	1-1/8″	1/2″	165	534	79	100	175	9.0	8.0	1″ -14UNS	a
FAS-3512	1-3/8″	1/2″	165	649	83	100	175	9.0	10.0	1″ -14UNS	a
FAS-3516	1-3/8″	5/8″	165	649	83	110	175	9.0	10.0	1″ -14UNS	a
FAS-4216	1-5/8″	5/8″	219	610	110	110	200	12.0	16.0	1″ -14UNS	a
FAS-5416	2-1/8″	5/8″	273	612	127	130	255	12.0	24.0	1″ -14UNS	a
FAS-5422	2-1/8″	7/8″	273	612	127	130	255	12.0	24.0	1″ -14UNS	a
FAS-7622	2-5/8″	7/8″	273	632	127	130	255	12.0	24.0	1″ -14UNS	a
FAS-7622P	2-5/8″	7/8″	325	575	150	180	---	---	29.0	1″ -14UNS	b

●适用于蒸发温度低于 -15℃的制冷装置；
●强大的气液分离能力和冷热交换能力，可避免未过热的湿蒸气进入压缩机；
●制冷剂进入热力膨胀阀前使其进一步过冷（增加液焓、避免闪发气体），可以有效提高制冷效率；
●设计压力：2.5 MPa；
●适用制冷剂：R134a、R22、R407C、R404A、R507A；
●连接口用途：(a) 气进口 ,(b) 气出口 ,(c) 液进口 ,(d) 液出口 ,(e) 排污口 ,(f) 安全阀口。

● Suitable for refrigeration units with evaporating temperature below -15℃ .
● Powerful gas-liquid separation and heat-exchange capabilities avoid un-superheated wet vapor from entering the compressor.
● Before the high pressure liquid refrigerant goes into the thermal expansion valve, it can be subcooled more (to increase liquid enthalpy value, to avoid flash gas), and also can improve the working efficiency of the system;
● Design pressure: 2.5 MPa;
● Applicative refrigerants: R134a, R22, R407C, R404A, R507A;
● Joints application: (a) gas inlet, (b) gas outlet, (c) liquid inlet, (d) liquid outlet, (e)drain outlet, (f) for safety valve.



a b

型号 Model	气管 Suction Pipe	液管 Liquid Pipe	ØD (mm)	H (mm)	H1 (mm)	A (mm)	B (mm)	Y (mm)	ØG (mm)	容积 Volume (l)	换热面积 (m^2)	低压储液量 Volume of Low Pressure (l)	图例 Fig.
FAR-50	2-1/8" ODS	7/8" ODS	Ø273	509	51	127	160	193	296	24	0.38	10	a
FAR-65	Ø76×4.0	Ø38×3.0	Ø377	788	75	180	220	120	240	65	0.58	21	b
FAR-80	Ø89×4.0	Ø45×3.0	Ø462	940	79	220	260	120	300	120	0.83	45	b
FAR-100	Ø108×4.0	Ø45×3.0	Ø562	1110	100	280	300	135	360	213	1.73	80	b
FAR-125	Ø133×4.0	Ø57×3.5	Ø612	1240	99	320	360	135	400	282	1.90	92	b

FHR系列低压储液回热器 FHR Series Low Pressure Liquid Regenerator

● FHR 系列低压储液回热器是为速冻机、速冻库等制冷剂充注量较大的制冷系统设计的；

●低压储液容积大，可以储存一定量未过热的制冷剂液体；

●采用了内 / 外螺纹高效换热管，具有强大的冷热交换能力。用从高压储液器供液管流入的液体制冷剂，与未过热的气体制冷剂进行热交换，气体制冷剂得到有效地过热后返回压缩机；

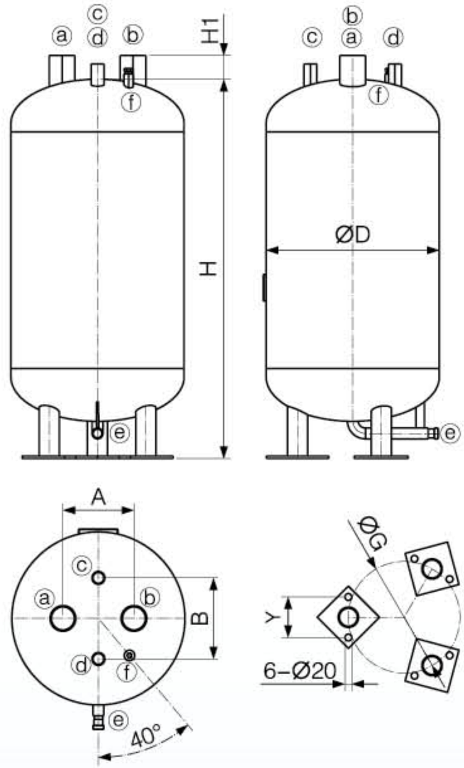
●高效节能型设计，在高压液体制冷剂进入热力膨胀阀前使其过冷（液体焓值增加、避免出现气体闪发），可以大幅度提高压缩机的工作效率；

●独特的 U 形管和回油孔设计，既保证了良好的回油效果，又可有效的避免液体制冷剂进入压缩机吸气管，避免压缩机液击；

● FHR-180,FHR-245,FHR-320 设计压力：2.5 MPa。FHR-467,FHR-670,FHR-1000 设计压力：1.7MPa；

●适用制冷剂：R134a,R22,R407C,R404A,R507A；

●连接口用途：(a) 气体进口 ,(b) 气体出口 ,(c) 液体进口 ,(d) 液体出口 ,(e) 排污口 ,(f) 安全阀接口。



● FHR Series low pressure liquid receiver with heat exchanger is designed for the systems with larger refrigerants charge, such as blast freezers, contact plate freezers, IQF freezers, and so on.

● Larger volume of the low pressure liquid receiver, and it can store some non-overheat refrigerant.

● Using the double sides high efficiency threaded tube, with a strong cold and heat exchange ability. The liquid refrigerant flowing from the high-pressure receiver is heat-exchanged with the un-superheated gas refrigerant, and the gas refrigerant is effectively superheated and returns to the compressor;

● High efficiency and energy saving design. Before the high pressure liquid refrigerant goes into the thermal expansion valve, it can be subcooled more (to increase liquid enthalpy value, to avoid flash gas), and also can greatly improve the working efficiency of the compressor;

● With the special design of U shape tube and oil return hole, it can guarantee the perfect oil return and prevent the liquid refrigerant from entering into the compressor, so it can avoid liquid slugging to compressor.

● FHR-180,FHR-245,FHR-320 design pressure:2.5 MPa, FHR-467,FHR-670,FHR-1000 design pressure:1.7 MPa

● Applicative refrigerants:R134a,R22,R407C,R404A,R507A;

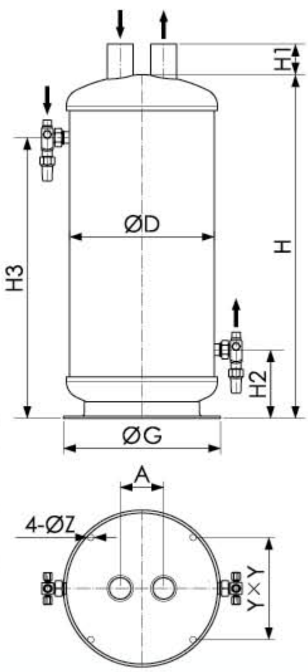
● Joints application:(a) gas inlet, (b)gas outlet, (c)liquid inlet, (d)liquid outlet, (e)drain outlet, (f) for safety valve;

型号 Model	气管 Suction Pipe (mm)	液管 Liquid Pipe (mm)	ØD (mm)	H (mm)	H1 (mm)	A (mm)	B (mm)	Y (mm)	ØG (mm)	容积 Volume (l)	换热面积 Heat transfer area (m^2)	低压储液量 Volume of Low Pressure (l)
FHR-180	Ø76	Ø38	512	1122	70	210	250	120	330	180	0.59	38
FHR-245	Ø89	Ø45	562	1246	75	280	300	135	360	245	0.98	63
FHR-320	Ø108	Ø45	612	1356	100	308	300	135	400	320	1.04	83
FHR-467	Ø133	Ø57	712	1480	120	320	430	135	460	467	2.33	140
FHR-670	Ø159	Ø57	812	1652	180	432	460	160	520	670	2.59	207
FHR-1000	Ø219	Ø76	912	1882	180	414	560	160	580	1000	5.13	428

FAH系列三器一体器，是一款经济节能产品。

它将储液器、气液分离器、冷热交换器三个装置有机的结合在一起。利用回到容器内侧气液分离器中的低温制冷剂和容器外侧储液器中的高压液态制冷剂进行热交换，在高压液体制冷剂进入热力膨胀阀前使其过冷（焓值增加、避免出现闪发气体），可以大幅度提高压缩机的工作效率。又可有效的避免液体制冷剂进入压缩机吸气管。

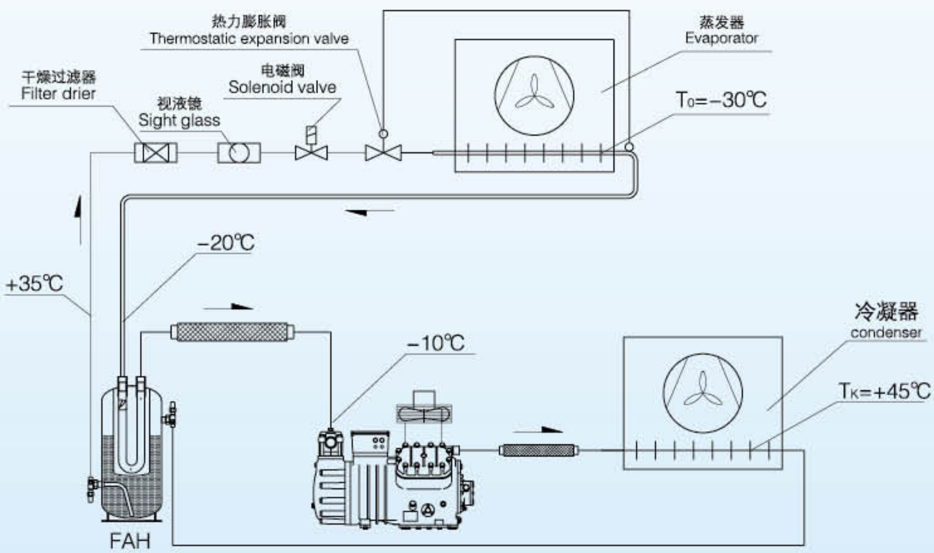
- 安装方法：垂直安装；
- 建议将容器和供液管路做绝热处理；
- 低压侧设计压力：1.7 MPa；
- 高压侧设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。



FAH Series Receiver Accumulator Cooling & Heating Exchanger Three in one Unit is a kind of economical and energy conservation product which combines the liquid receiver and the accumulator and the cooling & heating exchanger as one unit reasonably. The refrigerant in the liquid receiver will be exchanged by the returned lower suction inside the accumulator and the high pressure liquid refrigerant which is outside the liquid receiver. The high pressure refrigerant will be lower before it is entered into thermostatic expansion valve (Enthalpy value will be increased in order to avoiding flash gas) .It will be increased the working efficiency of the compressor, and the same time it will avoid the liquid refrigerant entering into the suction line of the compressor effectively.

- Installation method: vertical installation;
- We recommend that the vessel and the fluid supply line are isolated;
- The design pressure on the low side: 1.7 MPa;
- The design pressure on the high side: 2.9 MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.

型号 Model	气管 Suction Pipe (Inch)	液管 Liquid Pipe (Inch)	气室容积 Suction Pipe (l)	液室容积 Liquid Pipe (l)	ØD (mm)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	A (mm)	Y (mm)	ØG (mm)	ØZ (mm)
FAH-307	7/8"	1/2"	7.0	13	219	622	39	114	515	81	155	250	12
FAH-511	1-1/8"	5/8"	8.5	20	273	589	35	130	470	79	193	296	12
FAH-513	1-3/8"	5/8"	9.0	21	273	619	47	130	500	84	193	296	12
FAH-515	1-5/8"	5/8"	9.5	22	273	649	58	130	530	82	193	296	12
FAH-721	2-1/8"	7/8"	15.6	24.3	325	637	60	179	464	130	230	350	13



FAH应用示意图 FAH Application Diagrammatic Map

小型储液器选型
Model selection for small liquid receiver

储液器容积 Volume	制冷量 Refrigeration capacity (KW)		
	空调工况 Air conditioning	中温工况 Medium temp.	低温工况 Low temp.
4L	3.5	2.2	0.4
6L	5.5	3.4	2.1
8L	8.0	4.2	2.9
10L	10.5	6.3	3.8
12L	14.0	8.3	4.8
14L	16.0	9.5	5.5
16L	18.0	11.0	6.3
19L	22.0	14.0	7.8
23L	28.0	17.5	10.0
29L	36.5	23.0	14.0

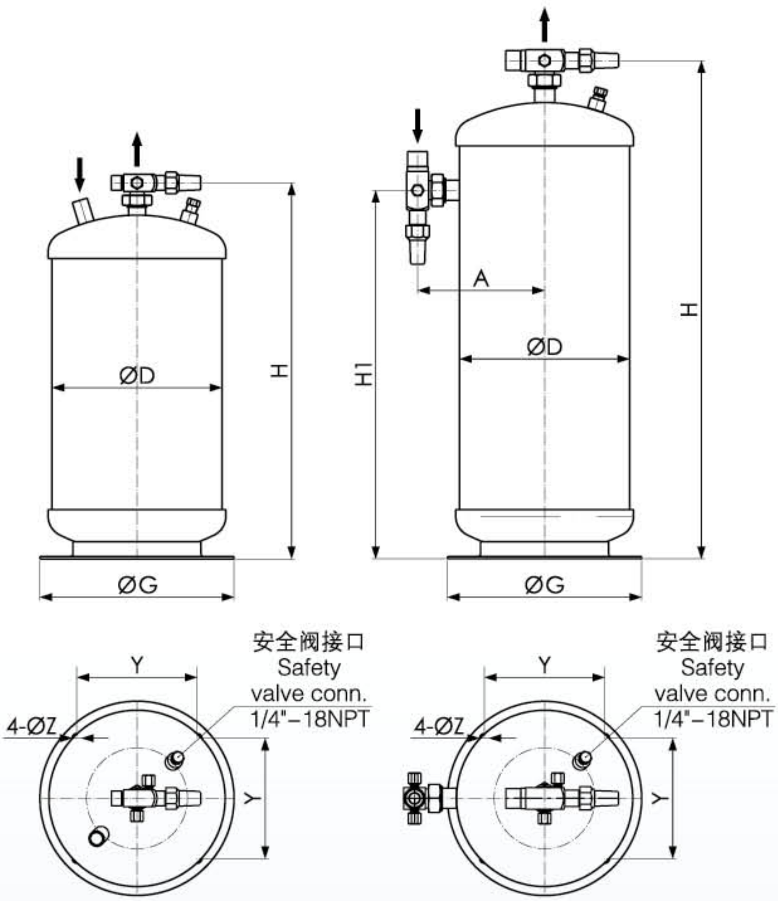
1、数值基于：R22 制冷剂 (冷间使用吊顶式冷风机，机组靠近冷间安装) 。
2、修正系数：使用 R404A/R507A (R22 数值 × 1.4) ，使用 R134a (R22 数值 × 1.1) 。
1、The data listed above is on the base of refrigerant R22(cold room with the air cooler of ceiling fan type, and the unit shall be installed close to the cold room).
2、Correction factor: With refrigerant R404A/R507A(value of R22 times 1.4) . With refrigerant R134A(value of R22 times 1.1) .

L系列立式储液器进口为ODF（钎焊）碳钢接口，出口装有截止阀。L-19、L-23、L-29三个型号进/出口均装有截止阀。所有型号均设计一个1/4"-18NPT安全阀接口。

- 设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

The inlet of L series vertical liquid receiver is ODF(soldering) carbon steel connection. The outlet is assembled with cut-off valve. But both of the inlet and outlet of L-19、L-23、L-29 are assembled with cut-off valves. All the models are designed with 1/4"-18NPT safety valve connection.

- The design pressure: 2.9MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



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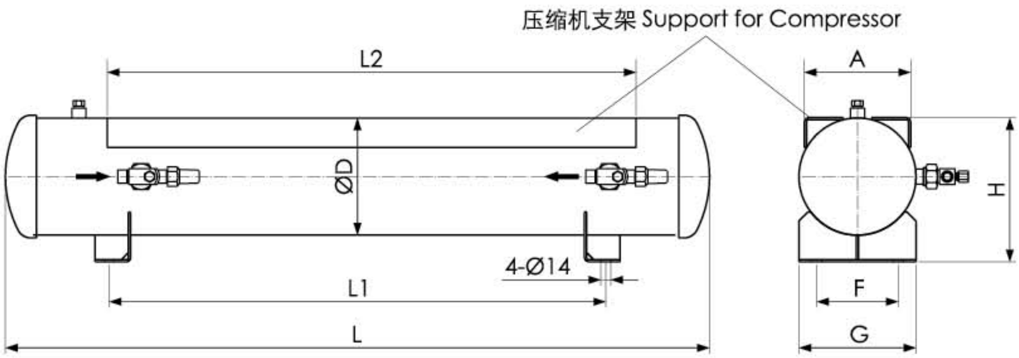
型号 Model	ØD (mm)	H (mm)	H1 (mm)	A (mm)	ØG (mm)	Y (mm)	ØZ (mm)	进口 Inlet (ODF)	出口 Outlet (ODF)	容积 Volume (l)	图例 Fig.
L-4	165	290	---	---	190	120	9.0	3/8"	3/8"	4	a
L-6	165	390	---	---	190	120	9.0	1/2"	1/2"	6	a
L-8	165	490	---	---	190	120	9.0	1/2"	1/2"	8	a
L-10	219	369	---	---	250	155	12	5/8"	5/8"	10	a
L-12	219	429	---	---	250	155	12	5/8"	5/8"	12	a
L-14	219	484	---	---	250	155	12	5/8"	5/8"	14	a
L-19	219	641	474	164	250	155	12	7/8"	7/8"	19	b
L-23	219	756	589	164	250	155	12	7/8"	7/8"	23	b
L-29	273	643	464	191	296	193	13	7/8"	7/8"	29	b

W系列卧式储液器进/出口均装有截止阀，设计了一个安全阀接口（1/4"-18 NPT）。

- 设计压力：2.9 Mpa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

The inlet and outlet of W series horizontal liquid receiver are assembled with cut-off valves. All the models are designed with 1/4"-18NPT safety valve connection.

- The design pressure: 2.9MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



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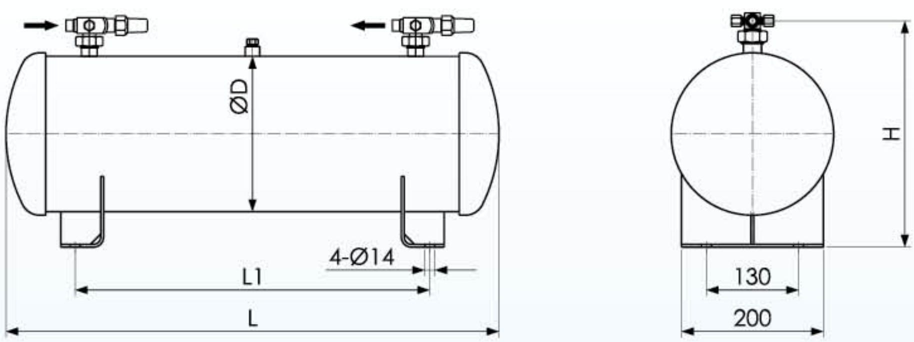

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型号 Model	ØD (mm)	L (mm)	L1 (mm)	L2 (mm)	H (mm)	A (mm)	G (mm)	F (mm)	进口 Inlet (ODF)	出口 Outlet (ODF)	容积 Volume (l)	图例 Fig.
W-14	165	743	460	496	203	150	165	115	1/2"	1/2"	14	a
W-16	165	843	640	596	203	150	165	115	5/8"	5/8"	16	a
W-19	165	993	700	746	203	150	165	115	5/8"	5/8"	19	a
W-23	165	1203	945	956	203	150	165	115	7/8"	7/8"	23	a
W-29	219	865	625	600	269	190	200	130	7/8"	7/8"	29	a
W2-14	219	436	220	–	310	–	200	130	1/2"	1/2"	14	b
W2-16	219	495	280	–	310	–	200	130	5/8"	5/8"	16	b
W2-19	219	580	360	–	310	–	200	130	5/8"	5/8"	19	b
W2-23	219	695	500	–	319	–	200	130	7/8"	7/8"	23	b
W2-29	219	865	625	–	328	–	200	130	7/8"	7/8"	29	b

储液器容积 Liquid Receiver Volume （l）	制冷量 Refrigerating Capacity（KW）		
	蒸发温度 Evaporation Temp：–10℃	蒸发温度 Evaporation Temp：–25℃	蒸发温度 Evaporation Temp：–40℃
40 L	60	25	15
60 L	90	35	20
80 L	120	50	30
100 L	160	65	35
150 L	260	110	60
200 L	380	175	100
250 L	450	200	120
300 L	520	240	140
500 L	750	420	230

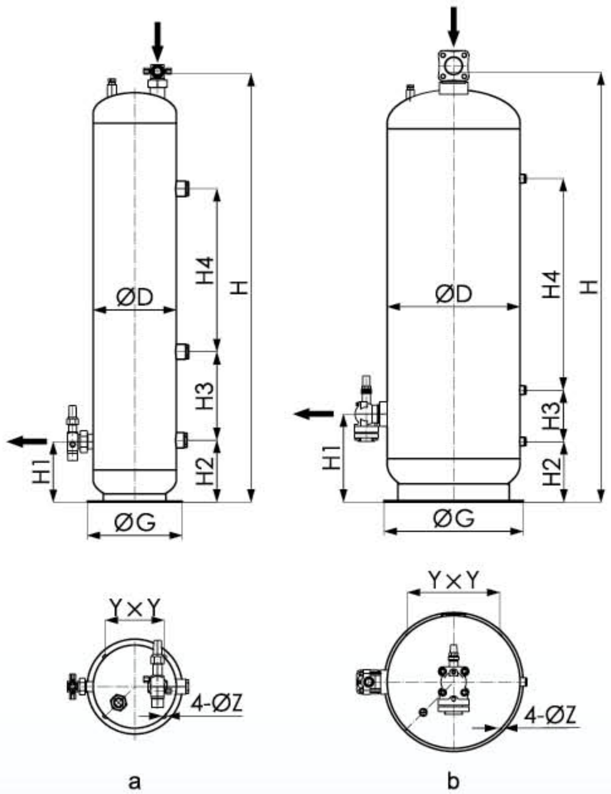
1、以上数值基于使用R22（使用吊顶式冷风机作为蒸发器的制冷装置），使用R404A/R507A（R22数值×1.4），使用R134a（R22数值×1.1）；
2、对于系统管路较长和排管蒸发器的制冷装置应根据情况加大储液器容积；
3、使用满液式制冷循环系统的制冷装置应根据实际制冷剂用量进行选型。

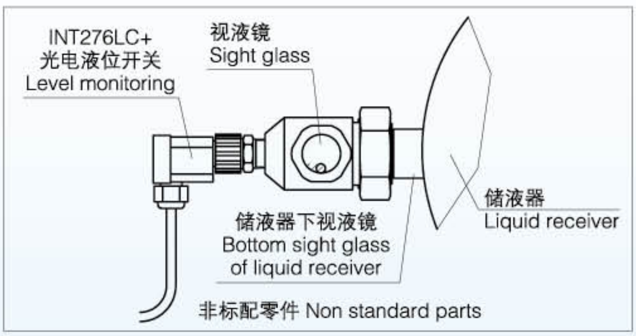
1、The data above is based on the use of R22（The ceiling type air cooler is used as the evaporator of the refrigerant vessel），R404A/R507A（R22 data×1.4），R134a（R22 data×1.1）;
2、For the system with long pipe and a refrigerating vessel pipe evaporator should be based on the situation of increasing the receiver volume;
3、Refrigeration vessel using system full liquid type refrigeration cycle should be carried out according to the actual amount of refrigerant selection.

E1L系列立式储液器 E1L Series Vertical Liquid Receiver

- 储液器上带有进口截止阀，出口截止阀；
- 设计安装了上，中，下三个视液镜，方便观察液位；
- 可根据客户的要求加装低液位报警器；
- 设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

- The liquid receiver is assembled with inlet cut-off valve and outlet cut-off valve;
- It is designed with 3 pieces of sight glasses which are located on top and center and bottom, with the sight glasses you can observe the liquid level expediently;
- It can be assembled low-liquid level alarm indicator to the liquid receiver according to customers' requirements.
- The design pressure：2.9 MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.

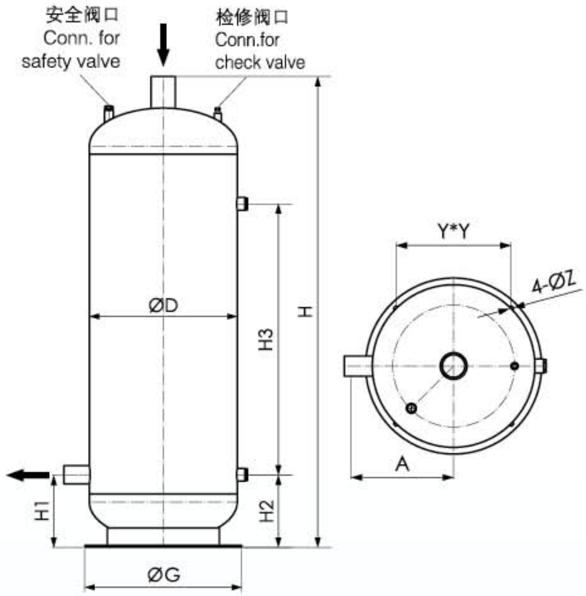




型号 Model	ØD (mm)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	Y (mm)	ØG (mm)	ØZ (mm)	进口 Inlet (Inch)	出口 Outlet (Inch)	容积 Volume (l)	图例 Fig.
E1L-40L	219	1256	159	163	259	525	155	250	12	1-1/8"	7/8"	40	a
E1L-60L	273	1242	179	179	242	520	193	296	12	1-3/8"	1-1/8"	60	a
E1L-80L	325	1205	203	199	317	330	230	350	13	1-5/8"	1-3/8"	80	a
E1L-100L	325	1465	203	199	317	590	230	350	13	1-5/8"	1-3/8"	100	a
E1L-150L	377	1656	257	215	372	652	267	410	13	2-1/8"	1-5/8"	150	b
E1L-200L	462	1471	297	245	230	600	327	490	14	2-5/8"	2-1/8"	200	b
E1L-250L	512	1491	305	251	233	616	360	540	18	2-5/8"	2-1/8"	250	b
E1L-300L	562	1507	390	262	237	600	390	590	18	3"	2-5/8"	300	b
E1L-500L	612	2007	406	279	237	975	425	640	18	3"	2-5/8"	500	b

●储液器上设计了进液口、出液口、安全阀口、检修阀口、高液位视液镜、低液位视液镜；
●可根据客户要求加装低液位报警装置；
● ECL-50,ECL-80,ECL-100,ECL-150,ECL-200,ECL-250 设计压力：2.9MPa(表压)；
● ECL-300 设计压力：2.9MPa(表压)；
● ECL-400,ECL-500,ECL-800 设计压力：2.5MPa(表压)；
●适用制冷剂：R134a,R22,R407C,R404A,R507A。

● The liquid receiver is designed with liquid inlet, liquid outlet, safety valve port, Check valve port, high liquid level sight glass, and low liquid level sight glass;
● A low level alarm device can be installed according to customer requirements;
● ECL-50, ECL-80, ECL-100, ECL-150, ECL-200, ECL-250 design pressure: 2.9MPa(gauge);
● ECL-300 design pressure: 2.9MPa(gauge);
● ECL-400, ECL-500, ECL-800 design pressure: 2.5MPa(gauge);
● Applicable refrigerant: R134a, R22, R407C, R404A, R507A.

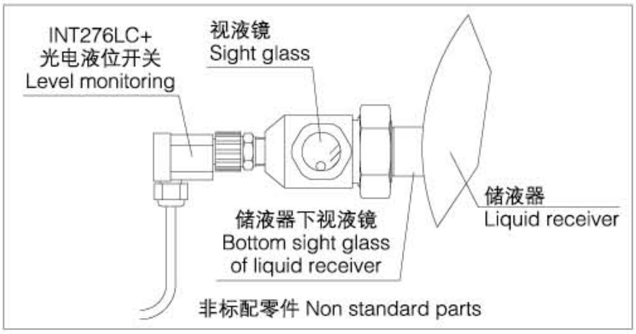


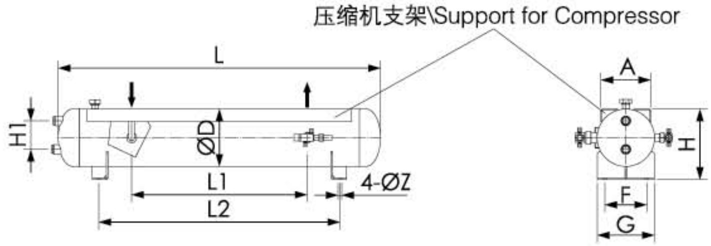
型号 Model	ØD (mm)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	A (mm)	Y (mm)	ØG (mm)	ØZ (mm)	进口 Inlet (mm)	出口 Outlet (mm)	容积 Volume (l)
ECL-50	325	789	181	171	420	198	230	350	13	1-3/4"-12UN	1-3/4"-12UN	50
ECL-80	377	910	196	186	480	224	267	410	13	1-3/4"-12UN	1-3/4"-12UN	80
ECL-100	412	976	208	196	500	286	290	440	14	Ø57x5 BW	Ø45x5 BW	100
ECL-150	462	1158	234	216	610	311	327	490	14	Ø76x6 BW	Ø57x5 BW	150
ECL-200	512	1236	240	222	660	336	360	540	18	Ø76x6 BW	Ø57x5 BW	200
ECL-250	512	1486	240	222	860	336	360	540	18	Ø76x6 BW	Ø57x5 BW	250
ECL-300	562	1480	261	233	850	381	390	590	18	Ø89x6 BW	Ø76x6 BW	300
ECL-400	612	1660	278	250	960	406	425	640	18	Ø89x6 BW	Ø76x6 BW	400
ECL-500	716	1548	299	272	850	456	497	750	18	Ø89x6 BW	Ø76x6 BW	500
ECL-800	716	2328	299	272	1480	456	497	750	18	Ø89x6 BW	Ø76x6 BW	800

E2W系列卧式储液器 E2W Series Horizontal Liquid Receiver

- 储液器上带有进口截止阀、出口截止阀；
- 设计安装了高、低2个视液镜，方便观察液位；
- 可根据客户的要求加装低液位报警器；
- 设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

- The liquid receiver is assembled with inlet cut-off valve and outlet cut-off valve;
- It is designed with 2 pieces of sight glasses which are located on top and bottom, with the sight glasses you can observe the liquid level expediently;
- It can be assembled low-liquid level alarm indicator to the liquid receiver according to customers' requirements;
- The design pressure：2.9 MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.





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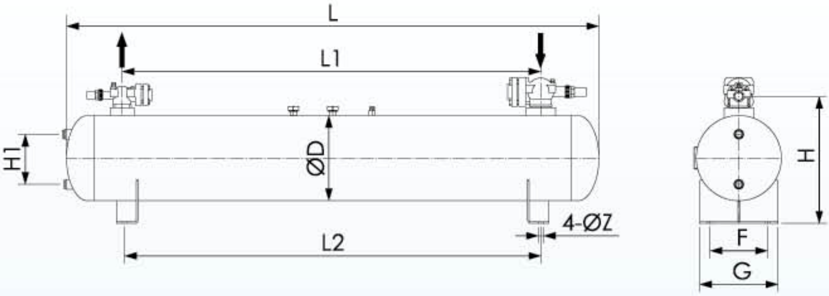

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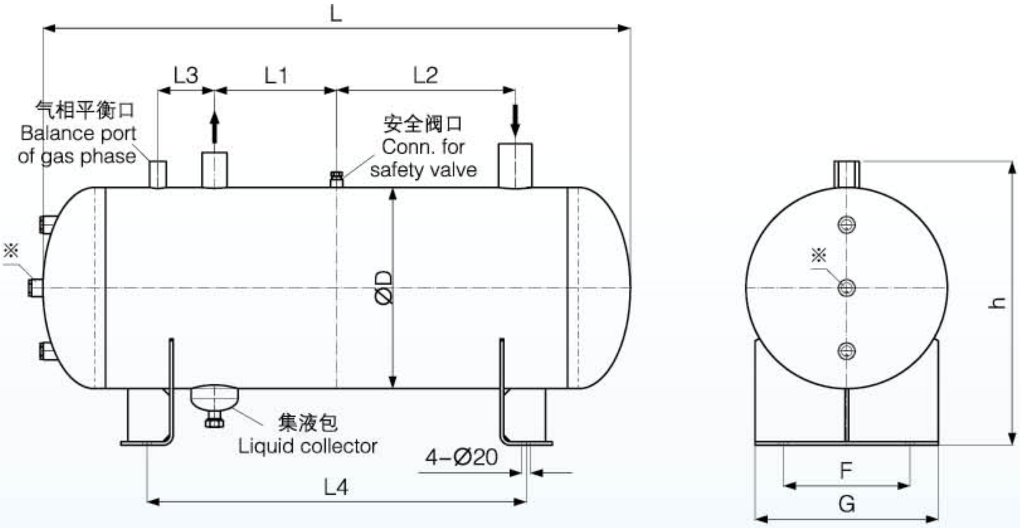
型号 Model	ØD (mm)	L (mm)	L1 (mm)	L2 (mm)	H (mm)	H1 (mm)	A (mm)	G (mm)	F (mm)	ØZ (mm)	进口 Inlet (Inch)	出口 Outlet (Inch)	容积 Volume (l)	图例 Fig.
E2W-40L	219	1230	670	920	299	130	190	210	140	20	1-1/8"	7/8"	40	a
E2W-60L	273	1171	560	810	353	162	239	260	180	20	1-3/8"	1-1/8"	60	a
E2W-80L	273	1546	1200	1185	419	162	-	260	180	20	1-3/8"	1-1/8"	80	b
E2W-100L	325	1382	965	940	472	190	-	300	220	20	1-5/8"	1-3/8"	100	b
E2W-150L	377	1548	1000	1050	550	220	-	350	250	20	2-1/8"	1-5/8"	150	b
E2W-200L	412	1686	1160	1100	633	250	-	380	260	20	2-5/8"	2-1/8"	200	b
E2W-250L	412	2072	1546	1540	633	250	-	380	260	20	2-5/8"	2-1/8"	250	b
E2W-300L	462	1976	1398	1500	686	316	-	420	290	20	3"	2-5/8"	300	b
E2W-500L	562	2220	1588	1500	786	360	-	510	360	20	3"	2-5/8"	500	b
E2W-800L	716	2246	1490	1530	937	400	-	640	460	20	3"	2-5/8"	800	b

●储液器上设计了进液口、出液口、安全阀口、排污口、气相平衡口、高液位视液镜、低液位视液镜；
●可根据客户要求加装低液位报警装置；
● ECW-50,ECW-80,ECW-100,ECW-150,ECW-200,ECW-250,ECW-300 设计压力：2.9MPa(表压)；
● ECW-400 设计压力：2.9MPa(表压)；
● ECW-500,ECW-800 设计压力：2.5MPa(表压)；
●适用制冷剂：R134a,R22,R407C,R404A,R507A。

● The liquid receiver is designed with liquid inlet, liquid outlet, safety valve port, sewage outlet, gas phase balance port, high liquid level sight glass, and low liquid level sight glass;
● A low level alarm device can be installed according to customer requirements;
● ECW-50, ECW-80, ECW-100, ECW-150, ECW-200, ECW-250, ECW-300 design pressure: 2.9MPa(gauge);
● ECW-400 design pressure: 2.9MPa(gauge);
● ECW-500, ECW-800 design pressure: 2.5MPa(gauge);
● Applicable refrigerant: R134a, R22, R407C, R404A, R507A.

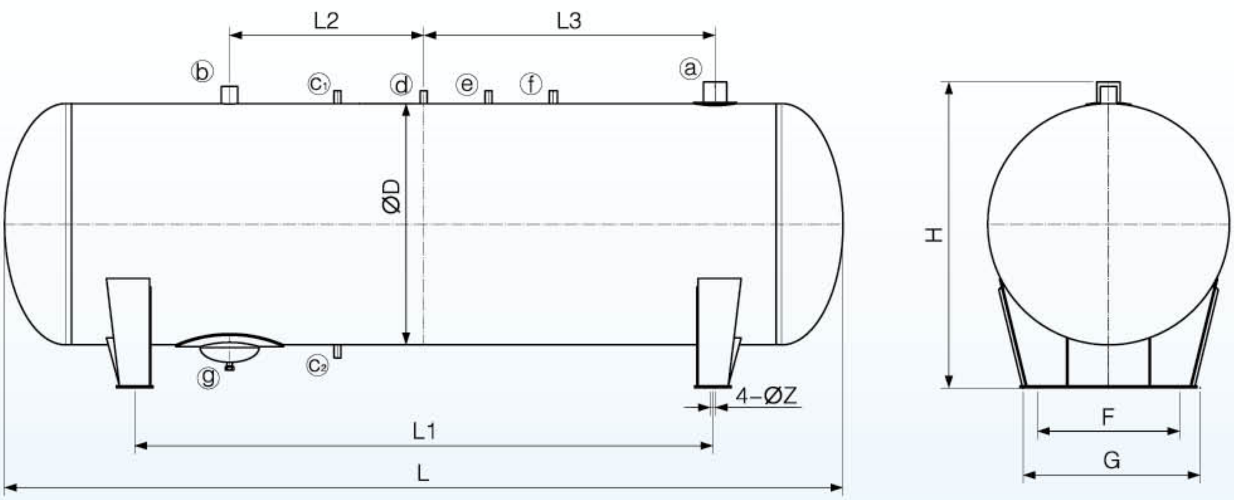


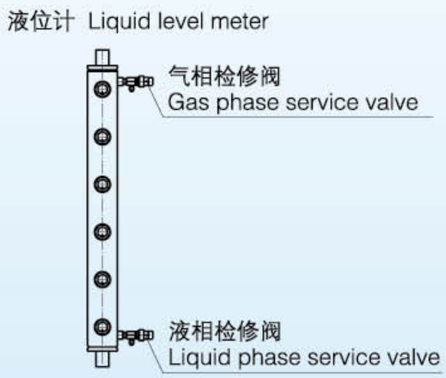
型号 Model	ØD (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	H (mm)	F (mm)	G (mm)	进口 Inlet (mm)	出口 Outlet (mm)	气相平衡接口 Balance port of gas phase (mm)	容积 Volume (L)
ECW-50	273	986	200	330	120	660	388	180	260	1-3/4"-12UN	1-3/4"-12UN	1-1/4"-12UNF	50
ECW-80	377	878	130	190	140	480	512	250	350	1-3/4"-12UN	1-3/4"-12UN	1-1/4"-12UNF	80
ECW-100	377	1068	170	335	140	670	557	250	350	Ø57x5 BW	Ø45x5 BW	1-1/4"-12UNF	100
ECW-150	412	1272	250	410	130	820	642	260	380	Ø76x6 BW	Ø57x5 BW	Ø38x5 BW	150
ECW-200	462	1348	280	410	130	870	692	290	420	Ø76x6 BW	Ø57x5 BW	Ø38x5 BW	200
ECW-250	462	1658	430	565	140	1180	692	290	420	Ø76x6 BW	Ø57x5 BW	Ø38x5 BW	250
ECW-300※	512	1622	355	535	160	1100	742	330	460	Ø89x6 BW	Ø76x6 BW	Ø38x5 BW	300
ECW-400※	562	1786	355	580	200	1190	792	360	510	Ø89x6 BW	Ø76x6 BW	Ø38x5 BW	400
ECW-500※	612	1882	400	615	200	1260	862	400	550	Ø89x6 BW	Ø76x6 BW	Ø38x5 BW	500
ECW-800※	716	2216	530	745	200	1530	966	460	640	Ø89x6 BW	Ø76x6 BW	Ø38x5 BW	800

※ 筒径≥500mm，容积≥300L的型号增设一个中间液位视镜
The models whose diameter≥500mm and volume≥300L will be assembled with a middle sight glass

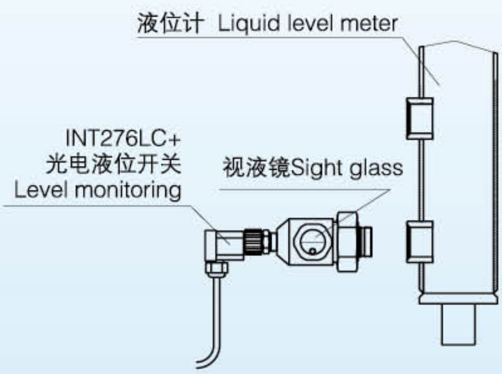
- E50MW大型卧式储液器接口全部为带丝堵的DN无缝钢管，无需切割即可方便的焊接各种法兰和截止阀，有效的避免了脏物进入储液器内部；
- 每台产品标配一个外置液位计，设计安装了多个视液镜，方便观察液位。还可根据客户的要求加装高、低液位报警器；
- 该产品不标配截止阀；
- 设计压力：2.3MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- 连接口用途：(a) (b) (c1) (c2) (d) (e) (f) 。

- All the connections of large horizontal liquid receiver are made by DN seamless steel and assembled with plugs. So it will so easy to weld it with all kinds of flanges or cut-off valves, and it also can avoid the dirt entering into the inside of liquid receiver;
- There is a liquid level meter for each liquid receiver. The liquid level meter is designed with many pieces of sight glasses, so it makes you observe the level expediently. We can also assemble the high or low level alarm according to customers' requirements;
- This series of product do not assemble with cut-off valves;
- The design pressure: 2.3MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- Connection application: (a) (b) (c1) (c2) (d) (e) (f) .





标配部件 现场安装
Standard part which will be fixed in plant



非标配零件
Non standard parts

型号 Model	进口 Inlet (a)	出口 Outlet (b)	液位计气相口 Gas phase conn. for liquid level meter (c_1)	液位计液相口 Liquid phase conn. for liquid level meter (c_2)	工艺阀口 Technics valve conn. (d)	气相阀口 Gas phase valve conn. (e)	安全阀口 Safety valve conn. (f)	排污口 Drain outlet (g)
E50MW–1.0	Ø89×4.0	Ø76×3.5	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1"–11.5NPT	Ø32×3.0
E50MW–1.5	Ø89×4.0	Ø76×3.5	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1"–11.5NPT	Ø32×3.0
E50MW–2.0	Ø89×4.0	Ø76×3.5	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1"–11.5NPT	Ø32×3.0
E50MW–2.5	Ø108×4.0	Ø76×4.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1"–11.5NPT	Ø32×3.0
E50MW–3.0	Ø108×4.0	Ø76×4.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1"–11.5NPT	Ø32×3.0
E50MW–3.5	Ø108×4.0	Ø76×4.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1"–11.5NPT	Ø32×3.0
E50MW–4.0	Ø108×4.0	Ø76×4.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1"–11.5NPT	Ø32×3.0
E50MW–4.5	Ø108×4.0	Ø76×4.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1"–11.5NPT	Ø32×3.0
E50MW–5.0	Ø108×4.0	Ø76×4.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1"–11.5NPT	Ø32×3.0
E50MW–6.0	Ø108×4.0	Ø76×4.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1"–11.5NPT	Ø32×3.0

型号 Model	ØD (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	H (mm)	G (mm)	F (mm)	ØZ (mm)	容积 Volume (m^3)
E50MW–1.0	Ø712	2727	2000	650	1000	962	640	460	20	1.0
E50MW–1.5	Ø816	3136	2300	750	1100	1066	720	530	20	1.5
E50MW–2.0	Ø916	3316	2400	800	1100	1106	810	590	20	2.0
E50MW–2.5	Ø1016	3366	2350	750	1100	1346	760	600	24	2.5
E50MW–3.0	Ø1016	4006	3000	1000	1400	1346	760	600	24	3.0
E50MW–3.5	Ø1120	3886	2680	900	1350	1450	820	660	24	3.5
E50MW–4.0	Ø1120	4420	3200	1150	1500	1450	820	660	24	4.0
E50MW–4.5	Ø1220	4200	2900	1000	1400	1550	880	720	24	4.5
E50MW–5.0	Ø1220	4640	3300	1200	1600	1550	880	720	24	5.0
E50MW–6.0	Ø1220	5530	4200	1550	2000	1550	880	720	24	6.0

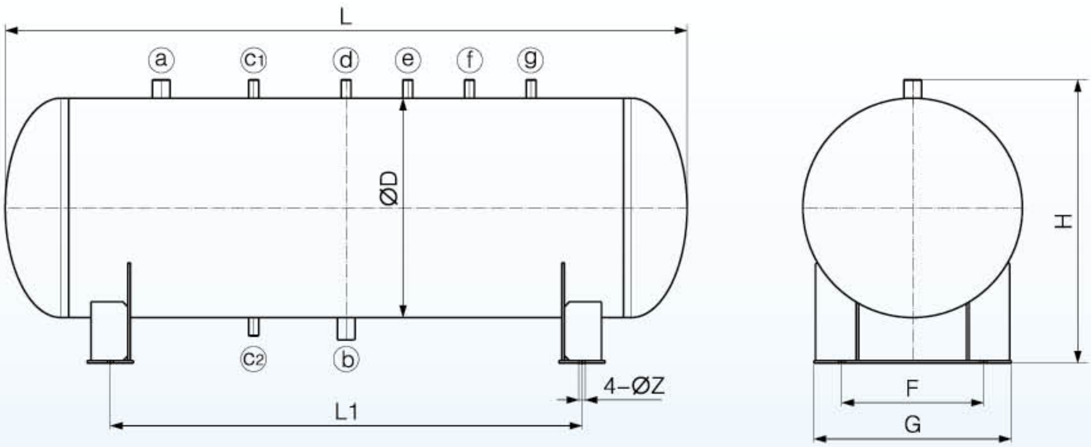
E50PY系列排液桶 E50PY Series Liquid Discharging Bucket

E50PY系列排液桶安装在氟泵供液的制冷系统中，用来储存冻结间或冷藏间热气融霜时由冷风机和排管蒸发器中来的制冷剂。

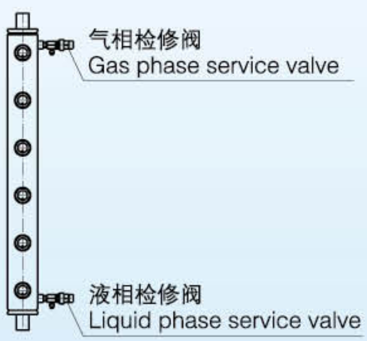
- 接口全部为带丝堵的DN无缝钢管，无需切割即可方便的焊接各种法兰和截止阀，有效的避免了脏物进入储液器内部；
- 每台产品标配一个外置液位计，设计安装了多个视液镜，方便观察液位。还可根据客户的要求加装高、低液位报警器；
- 该产品不标配截止阀；
- 设计压力：2.3MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- 连接口用途：(a) (b) (c1) (c2) (d) (e) (f) (g)。

E50PY series liquid discharging bucket can be used for the fluorine pump feed liquid refrigeration system. It can receive the refrigerants come from the air cooler and cooling coil when defrosting by super-heated vapour happened in the freezing room or cold storage.

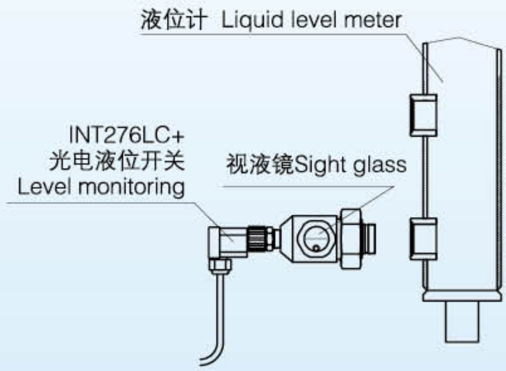
- All the connections of E50PY series liquid discharging bucket are made by DN seamless steel and assembled with plugs. So it will so easy to weld it with all kinds of flanges or cut-off valves, and it also can avoid the dirt entering into the inside of liquid receiver;
- There is a liquid level meter for each liquid receiver. The liquid level meter is designed with many pieces of sight glasses, so it makes you observe the level expediently. We can also assemble the high or low level alarm according to customers' requirements;
- This series of product do not assemble with cut-off valves;.
- The design pressure: 2.3MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- Connection application: (a) (b) (c1) (c2) (d) (e) (f) (g).



液位计 Liquid level meter



标配部件 现场安装
Standard part which will be fixed in plant



非标配零件
Non standard parts

型号 Model	进口 Inlet (a)	出口 Outlet (b)	液位计气相口 Gas phase conn. for liquid level meter (c2)	液位计液相口 Liquid phase conn. for liquid level meter (c2)	加压口 Pressurizing conn. (d)	减压口 Relax-pressure conn. (e)	工艺阀口 Technics valve conn. (f)	安全阀口 Safety valve conn. (g)
E50PY-0.3	Ø45×3.0	Ø45×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1/2"-14NPT
E50PY-0.5	Ø57×3.5	Ø57×3.5	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	3/4"-14NPT
E50PY-0.8	Ø57×3.5	Ø57×3.5	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	3/4"-14NPT
E50PY-1.0	Ø76×4.0	Ø76×4.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1"-11.5NPT
E50PY-1.5	Ø76×4.0	Ø76×4.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1"-11.5NPT
E50PY-2.0	Ø76×4.0	Ø76×4.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	1"-11.5NPT

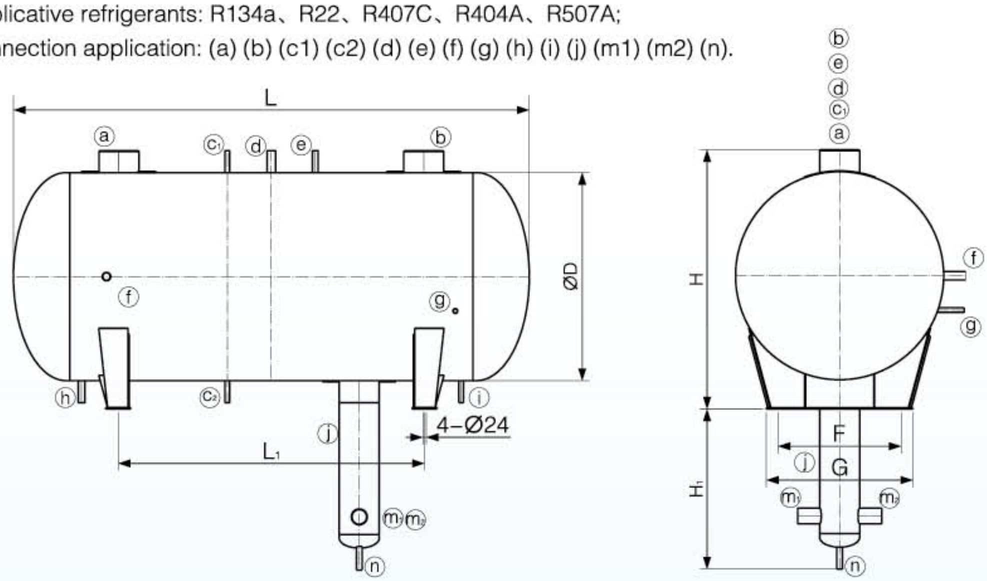
型号 Model	ØD (mm)	L (mm)	L1 (mm)	H (mm)	G (mm)	F (mm)	ØZ (mm)	容积 Volume (m^3)
E50PY-0.3	512	1624	1100	722	460	330	20	0.3
E50PY-0.5	612	1882	1260	842	550	400	20	0.5
E50PY-0.8	712	2212	1530	942	640	460	20	0.8
E50PY-1.0	712	2727	2000	962	640	460	20	1
E50PY-1.5	816	3136	2300	1066	720	530	20	1.5
E50PY-2.0	916	3316	2400	1166	810	590	20	2

FNW系列氟用低压循环桶是氟泵供液系统的专用设备，其作用是贮存并稳定地供给氟泵循环所需的低压液体，同时又能对系统回气进行气液分离，保证压缩机的安全运行，带“*”的还可兼做排液桶使用。

- 设计压力：1.7 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- 连接口用途：(a)(b)(c1)(c2)(d)(e)(f)(g)(h)(i)(j)(m1)(m2)(n)。

FNW Series Fluorine Low-pressure Circulation Barrel is a special designed equipment for fluorine pump liquid feeding system. It can store and steadily feed the low-pressure liquid which be used for fluorine pump's circulation, and at the meantime, it also can be used for gas-liquid separation to the suction line of the system. So it can ensure the compressor work safely. The model with “*” can also be used as Liquid Discharging Bucket.

- Design pressure: 1.7 MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- Connection application: (a) (b) (c1) (c2) (d) (e) (f) (g) (h) (i) (j) (m1) (m2) (n).



型号 Model	ØD (DN)	L (mm)	L1 (mm)	H (mm)	H1 (mm)	F (mm)	G (mm)	液容积 Liquid Vol. (m^3)	总容积 Total Vol. (m^3)	处理量 Handling capacity (m^3/h)
FNW-1.5	1000	2096	1030	1366	1000	600	760	0.44	1.5	779
FNW-2.0*	1000	2730	1660	1366	1000	600	760	0.58	2.0	779
FNW-2.5	1200	2398	1180	1566	1000	720	880	0.73	2.5	1150
FNW-3.0*	1200	2866	1620	1566	1000	720	880	0.87	3.0	1150
FNW-4.0	1400	2800	1370	1770	1013	840	1000	1.16	4.0	1566
FNW-5.0*	1400	3520	2090	1770	1013	840	1000	1.45	5.0	1566
FNW-6.0	1600	3220	1600	1970	1013	960	1120	1.74	6.0	2045
FNW-7.0*	1600	3770	2150	1970	1013	960	1120	2.03	7.0	2045
FNW-8.5	1800	3590	1764	2224	1266	1120	1280	2.47	8.5	2588
FNW-10*	1800	4260	2430	2224	1266	1120	1280	2.90	10	2588
FNW-12*	2000	4174	2150	2424	1266	1260	1420	3.48	12	3195

连接口 Conn.	用 途 Application	FNW-1.5 FNW-2.0	FNW-2.5 FNW-3.0	FNW-4.0 FNW-5.0	FNW-6.0 FNW-7.0	FNW-8.5 FNW-10	FNW-12
a	气进口 Gas inlet	Ø159×4.5	Ø219×6.0	Ø273×7.0	Ø325×8.0	Ø325×8.0	Ø325×8.0
b	气出口 Gas outlet	Ø159×4.5	Ø219×6.0	Ø273×7.0	Ø325×8.0	Ø325×8.0	Ø325×8.0
c_1	液位计气相口 Gas-phase conn.of liquid level meter	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0
c_2	液位计液相口 Liquid-phase conn. of liquid level meter	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0
d	气相总管 Gas-phase main	Ø57×3.5	Ø57×3.5	Ø57×3.5	Ø76×4.0	Ø76×4.0	Ø76×4.0
e	安全阀口 Conn. for Safety valve	1"-11.5NPT	1"-11.5NPT	1"-11.5NPT	1"-11.5NPT	1"-11.5NPT	1"-11.5NPT
f	供液口 Liquid feeding conn.	Ø57×3.5	Ø57×3.5	Ø57×3.5	Ø76×4.0	Ø76×4.0	Ø76×4.0
g	液位控制口 Liquid level controled conn.	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0
h	液相总管 Liquid-phase main	Ø45×3.0	Ø45×3.0	Ø45×3.0	Ø57×3.5	Ø57×3.5	Ø57×3.5
i	回油口 Oil return conn.	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0
j	集液管 Liquid collector pipe	Ø219×6.0	Ø219×6.0	Ø273×7.0	Ø273×7.0	Ø325×8.0	Ø325×8.0
m_1	液出口 Liquid outlet	Ø89×4.0	Ø89×4.0	Ø108×4.0	Ø108×4.0	Ø133×4.0	Ø133×4.0
m_2	液出口 Liquid outlet	Ø89×4.0	Ø89×4.0	Ø108×4.0	Ø108×4.0	Ø133×4.0	Ø133×4.0
n	排污口 Drain outlet	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0

备注：

1. 处理量：R22制冷剂（如使用其他制冷剂请与O&F技术部联系）在+40℃冷凝温度允许压缩机最大理论排量VH（m^3/h）
2. 不带"*"的氟用低压循环桶：适用于①不采用热氟融霜的冷库②使用水融霜冷风机作为蒸发器的冷库③速冻机
3. 带"*"的氟用低压循环桶：适用于①采用热氟融霜的冷库②使用热氟融霜冷风机作为蒸发器的冷库③速冻库

Remark:

1. Handling capacity:With refrigerant R22 (if you would like to use other kinds of refrigeants, please contact with O&F technology department) and at +40℃ condensing temperature, the max.theoretical displacement VH（m3/h）of the compressor.
2. Model without "*" Fluorine Low-pressure Circulation Barrel: Available for ① The cold storage without heat fluorine defrosting② The cold storage take water defrosting cooler as evaporator ③Quick-freeze machine
3. Model with "*" Fluorine Low-pressure Circulation Barrel: Available for ①The cold storage with heat fluorine defrosting② The cold storage take heat fluorine cooler as evaporator ③Quick-freeze storage

氟泵供液制冷系统

以前氟利昂系统绝大部分采用的是膨胀阀供液干式蒸发，其主要原因有：

1、膨胀阀供液干式蒸发系统比较简单，分离设备少，系统充液量也少，自动化程度高。

2、原来氟利昂系统只有在小型系统中应用，小型系统对能效比的要求并不高，所以其效率低的缺点并不致命。

随着氟利昂系统越来越多的应用到大、中型制冷系统中，特别是使用排管蒸发器的大、中型冷藏库、格架式速冻库和速冻机等制冷装置，膨胀阀供液干式蒸发的缺点就凸显出来了：

1、高压液体在节流过程中产生的闪发气体也送入蒸发器，影响传热效果，蒸发器的实际利用面积减少。

2、当蒸发器负荷发生变化或向蒸发器的供液量与蒸发量的平衡关系严重失调时，制冷压缩机极易发生湿行程，或造成降温困难、回气过热、压缩机排气温度升高。

3、供液量受冷凝压力和蒸发压力差值变化影响引起供液量失调。

4、对管路设计和安装要求比较高，否则会出现回油困难、供液不均、蒸发器效率低等问题。

5、系统管道长，压力降大，将使吸气压力降低，吸入气体比容增大，导致输气系数下降，直接影响到制冷能力和增加了压缩机的功耗。

6、回气管道和压缩机直接连接，在制造和安装过程中进入蒸发器和管道中的脏物容易进入压缩机造成压缩机的损坏。

氟泵供液制冷系统利用氟泵将低压循环桶内经过节流的低温液体，以数倍于蒸发量的流量，直接输送到各冷间的蒸发器中去。在蒸发器中一部分氟液蒸发气化，多余的液体随同气体回至低压循环桶，经分离后，气体被制冷压缩机吸走，留在桶内的液体连同从高压储液器补充来的（相当于蒸发量），又由氟泵送至蒸发器进行强制再循环。

氟泵供液制冷系统的优点：

1、蒸发器热交换效率高。蒸发器内有数倍于蒸发量的液体使管内流速加大，管内表面能得到充分的润湿，加之液体的冲刷，减轻了润滑油对管壁换热形成的影响。

2、安全性好。低压循环桶有足够大的容积进行气液分离，不容易发生湿行程。

3、制冷效率高。低压循环桶设在机房，离压缩机近，吸气管内压力损失小，吸气过热度也小，有利于提高制冷效率。

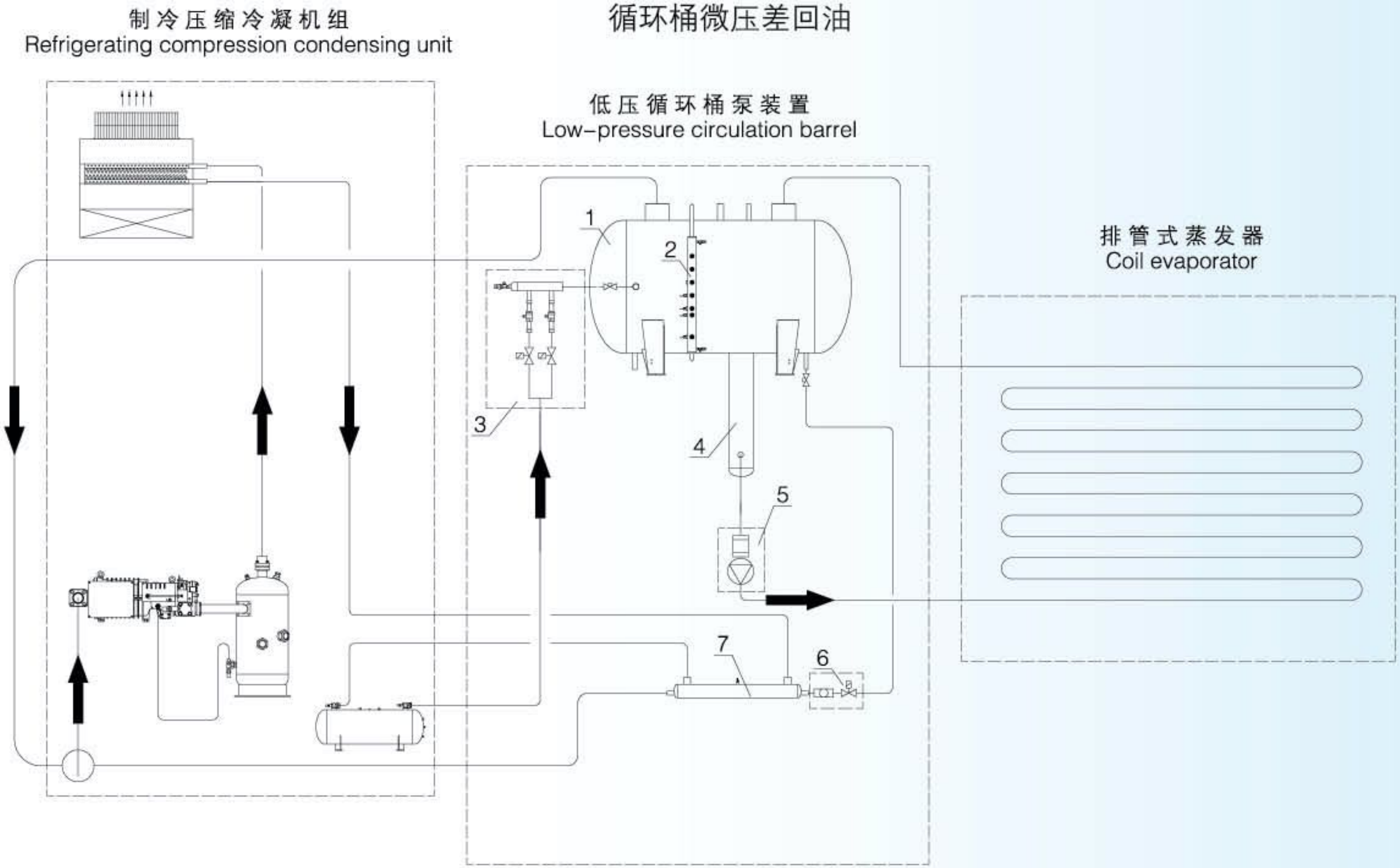
4、安全可靠地解决了排管热氟融霜。低压循环桶可代替气液分离器和排液桶，通过调节站可实现部分冷间融霜的同时大部分冷间继续制冷循环，简化了蒸发器融霜程序，提高了效率。

5、系统停止运转后，蒸发器管内氟液仍能继续蒸发，所以有一定的“冷惰性”作用。

6、回气管道不直接和压缩机连接，在制造和安装过程中进入蒸发器和管道中的脏物直接进入低压循环桶，可通过排污阀将脏物排出，不会因脏物进入压缩机造成压缩机的损坏。

氟泵供液制冷系统
Fluorine Pump Feed Liquid Refrigeration System

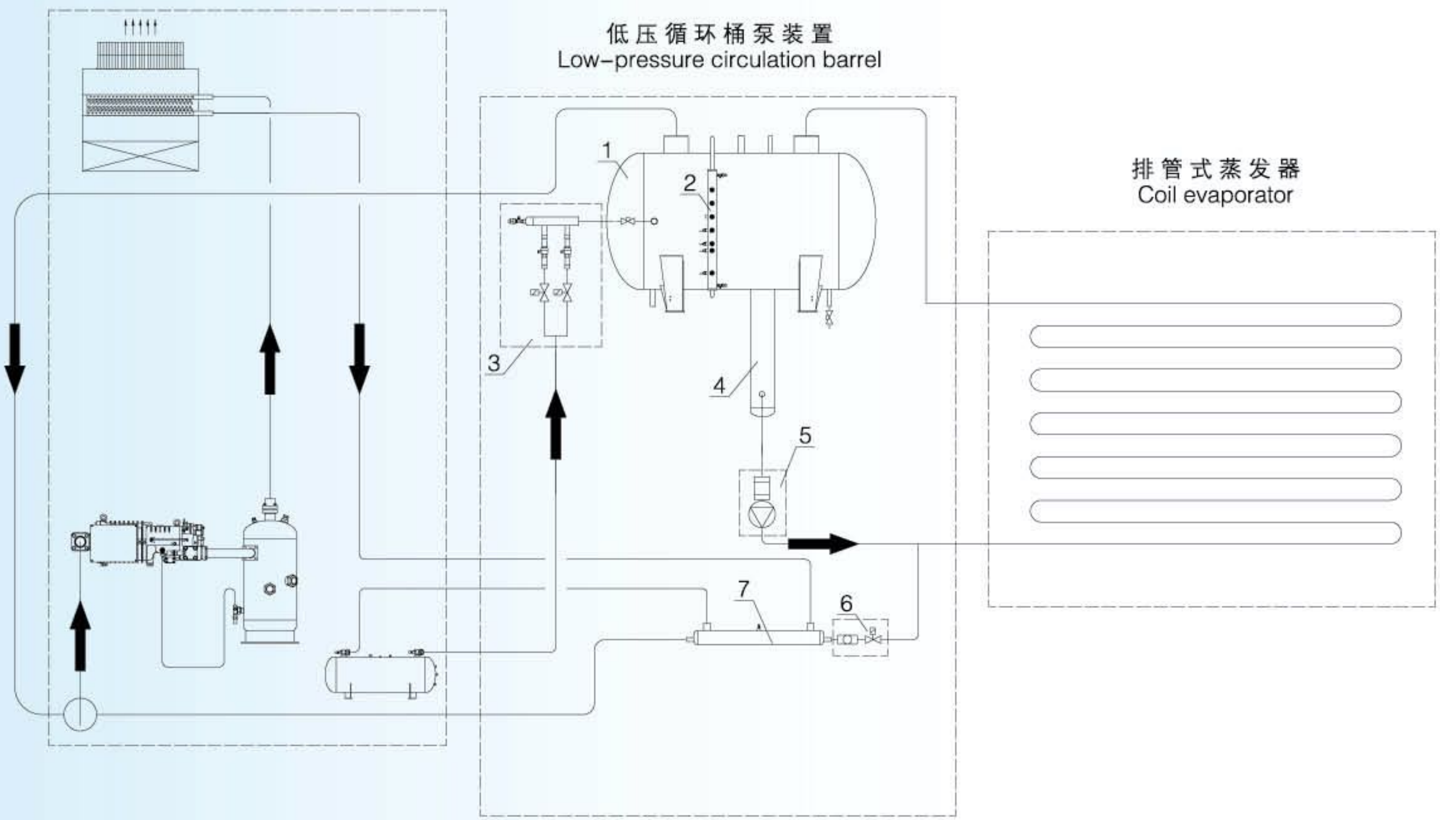
循环桶微压差回油



1、低压循环桶 Low-pressure circulation barrel
2、光电液位显示控制器 Photoelectric liquid level display controller
3、变流量节流阀装置 Variable flow throttle valve equipment
4、集液管 Liquid collector
5、氟泵 Fluorine pump
6、脉冲式回油电磁阀 Impulse type oil return solinoid valve
7、回油热交换器 Oil return heat exchanger

氟泵供液制冷系统
Fluorine Pump Feed Liquid Refrigeration System

泵后压力回油



1、低压循环桶 Low-pressure circulation barrel
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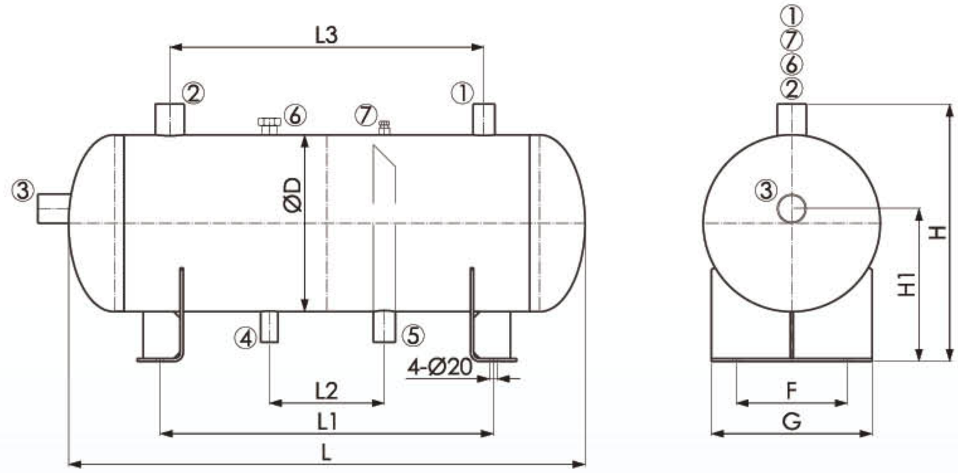
7、回油热交换器 Oil return heat exchanger

E50HX系列虹吸罐适用于螺杆式压缩机油冷却系统。

热虹吸油冷却的原理是依据高压侧制冷剂的重力循环。可以广泛应用于冷凝器与油冷却器之间有足够高度差的制冷系统上。制冷剂液体自虹吸罐中流出，直接进入位置较低的油冷却器中，吸收逆向流动的润滑油中的热量，使一部分制冷剂液体吸热后汽化，气液两相的制冷剂混合物通过虹吸罐流回至冷凝器的进气口（经过虹吸罐时液体制冷剂被分离），与压缩机排气混合经冷凝器后，气态制冷剂重新被液化。为了确保实现重力循环，通向油冷却器的液体管路必须达到足够的高度。

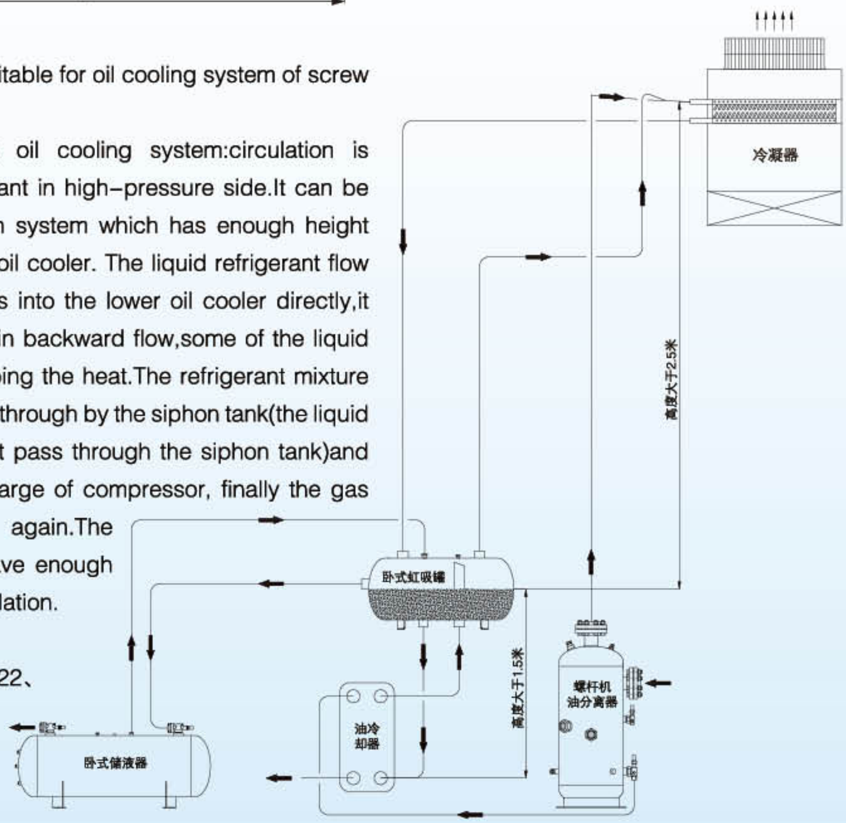
- 设计压力：2.3MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。



E50HX series siphon tank is suitable for oil cooling system of screw compressor.

The theory of thermosiphon oil cooling system:circulation is performed by the gravity of refrigerant in high-pressure side.It can be extensively used in the refrigeration system which has enough height difference between condenser and oil cooler. The liquid refrigerant flow out from the siphon tank and enters into the lower oil cooler directly,it adsorb the heat of the lubricant oil in backward flow,some of the liquid refrigerant will vaporize after adsorbing the heat.The refrigerant mixture will flow to the gas inlet of condenser through by the siphon tank(the liquid refrigerant will be separated when it pass through the siphon tank)and then it will be mixed with the discharge of compressor, finally the gas refrigerant will be liquefied once again.The liquid line to the oil cooler must have enough height to make sure the gravity circulation.

- The design pressure:2.3MPa;
- Applicative refrigerants:R134a、R22、R407C、R404A、R507A.



			E50HX-100	E50HX-200	E50HX-400	E50HX-600	E50HX-800	E50HX-1200
	液容积 Liquid vol.	l	50	100	200	300	400	600
	总容积 Total vol.	l	100	200	400	600	800	1200
尺 寸 Dimension	ØD	mm	377	462	562	612	712	816
	L	mm	1068	1348	1788	2232	2212	2546
	L1	mm	670	870	1190	1610	1530	1710
	L2	mm	230	300	400	600	600	600
	L3	mm	630	820	1160	1500	1400	1500
	H	mm	557	692	792	892	992	1096
	H1	mm	317	399	455	510	573	625
	F	mm	250	290	360	400	460	530
	G	mm	350	420	510	550	640	720
接 口 Connection	1	mm	Ø45x3.0 BW	Ø57x3.5 BW	Ø76x4.0 BW	Ø89x4.0 BW	Ø108x4.0 BW	Ø133x4.0 BW
	2	mm	Ø57x3.5 BW	Ø76x4.0 BW	Ø89x4.0 BW	Ø108x4.0 BW	Ø133x6.0 BW	Ø159x4.0 BW
	3	mm	Ø57x3.5 BW	Ø76x4.0 BW	Ø89x4.0 BW	Ø108x4.0 BW	Ø133x6.0 BW	Ø159x4.0 BW
	4	mm	Ø38x3.0 BW	Ø45x3.0 BW	Ø57x3.5 BW	Ø76x4.0 BW	Ø89x4.0 BW	Ø108x4.0 BW
	5	mm	Ø45x3.0 BW	Ø57x3.5 BW	Ø76x4.0 BW	Ø89x4.0 BW	Ø108x4.0 BW	Ø133x4.0 BW
	6	UN	1-3/4"-12	1-3/4"-12	1-3/4"-12	1-3/4"-12	1-3/4"-12	1-3/4"-12
	7	NPT	1/2"-14	1/2"-14	1/2"-14	3/4"-14	3/4"-14	1"-11.5
连接口用途 Application of the Conn.	1	--	气化后的制冷剂流回冷凝器进气口 Vaporized refrigerant flow to the gas inlet of condenser					
	2	--	冷凝后制冷剂进口 Inlet of the refrigerant after condensation					
	3	--	去储液器接口 Connection to liquid receiver					
	4	--	去油冷却器接口 Connection to oil cooler					
	5	--	经油冷却器吸热后制冷剂接口 Conn. for the refrigerant after adsorbing the heat in oil cooler					
	6	--	气相平衡接口 Gas-phase balance connection					
	7	--	安全阀接口 Safety-valve connection					

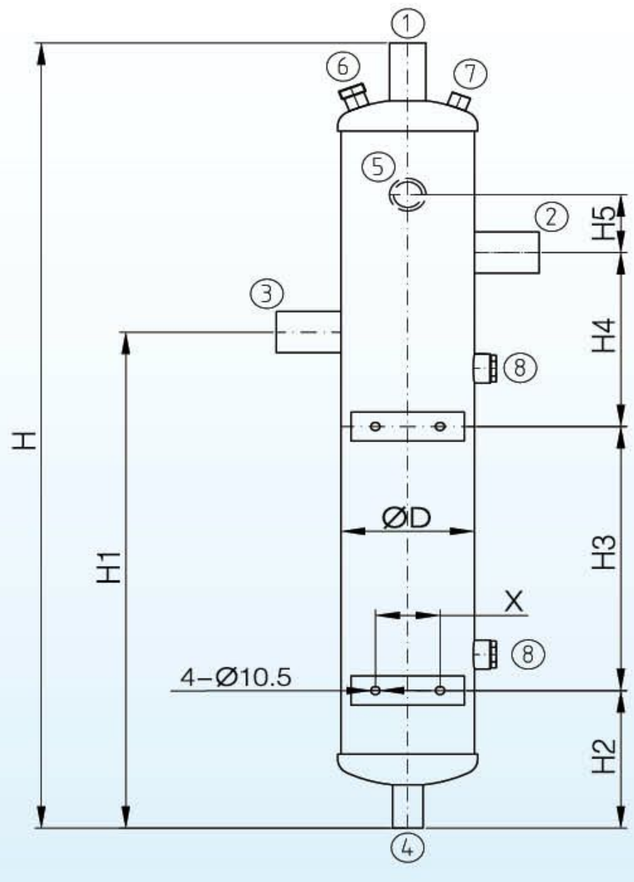
E50HX系列卧式虹吸罐制冷能力表
E50HX Series Horizontal Siphon Tank Refrigerating Capacity Table

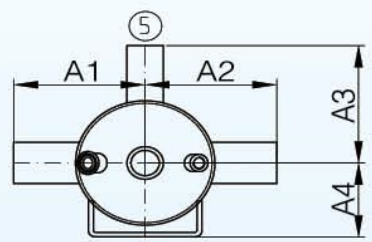
型号 Model	蒸发温度 Evaporating temp.	−10℃	−15℃	−20℃	−25℃	−30℃	−35℃	−40℃	最大油冷负荷 Max. Oil−cooled load (KW)
E50HX−100	R22	310	360	430	510	610	750	940	38.6
	R404A	160	210	240	290	340	410	500	24.1
	R507A	160	190	230	270	320	380	460	23.4
E50HX−200	R22	620	720	850	1010	1220	1500	1880	57.3
	R404A	330	410	480	570	680	820	990	35.8
	R507A	320	390	460	530	630	760	920	34.7
E50HX−400	R22	840	980	1150	1370	1660	2030	2540	94.2
	R404A	440	560	660	780	920	1110	1350	58.8
	R507A	430	530	620	730	860	1030	1250	57.0
E50HX−600	R22	1180	1380	1630	1940	2350	2880	3600	174.0
	R404A	630	800	930	1100	1300	1570	1910	108.0
	R507A	610	750	880	1030	1220	1460	1760	105.0
E50HX−800	R22	1930	2250	2660	3160	3820	4680	5860	247.0
	R404A	1020	1300	1520	1790	2120	2550	3110	154.0
	R507A	990	1230	1430	1680	1980	2370	2870	149.0
E50HX−1200	R22	2770	3230	3810	4540	5480	6720	8400	376.0
	R404A	1470	1870	2180	2570	3050	3660	4460	235.0
	R507A	1430	1760	2050	2410	2850	3400	4120	228.0

注：以上数据基于冷凝温度40℃，冷凝器后过冷度5K，吸气过热度10K，系统带经济器运行，允许压缩机最大理论排气量VH（m^3/h）。
Remark:The data above on the basis of condensing temperature 40℃, degree of super−cooling after condenser 5K, degree of super−heating of suction 10K,system running with economizer,admissible max.theoretical exhaust volume of compressor VH（m^3/h）

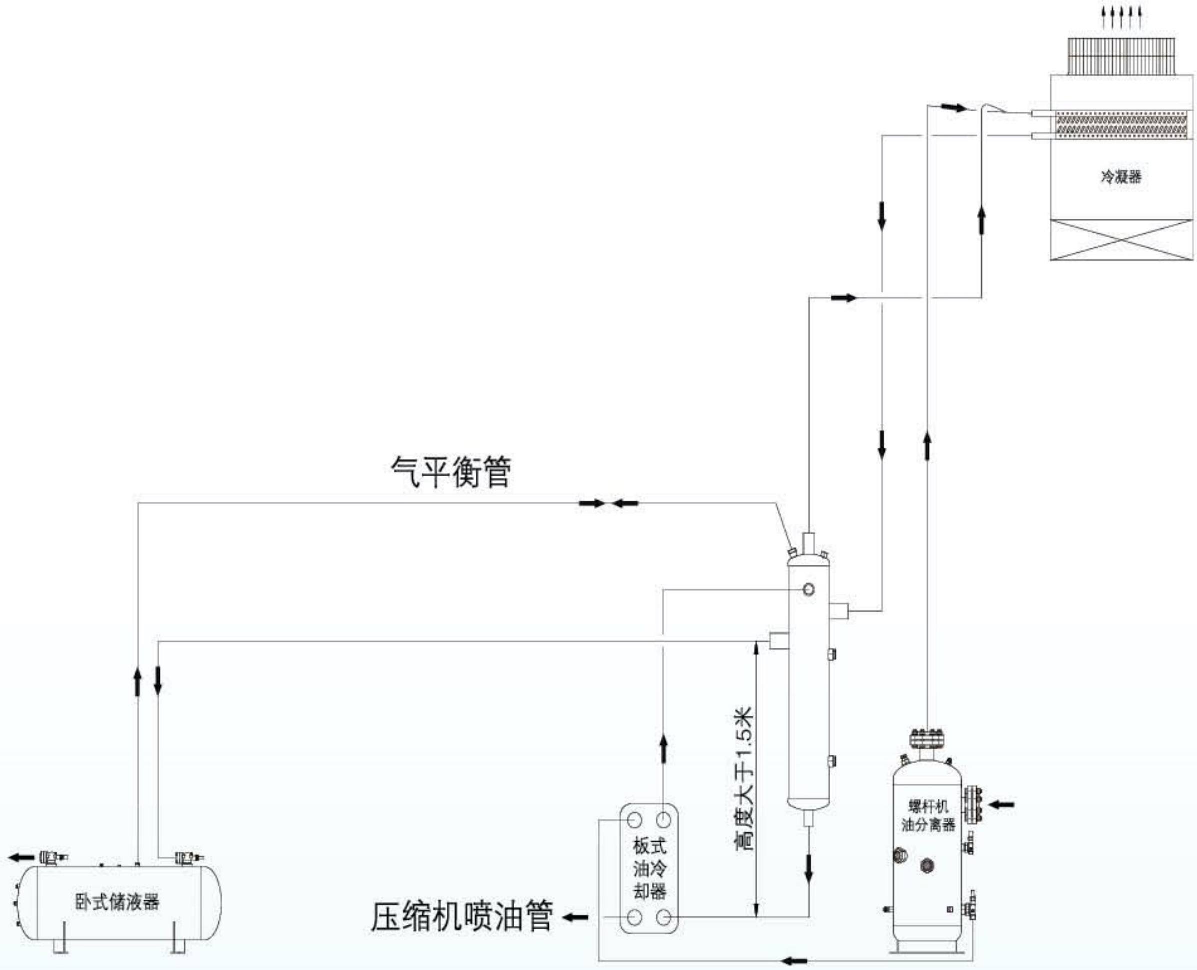
LHX 立式虹吸罐可方便地安装在机组上，减少设备成本和工程现场施工成本。
★请注意：选配板式油冷却器时，制冷剂侧进出口压降要明显小于虹吸罐液面和板式油冷却器高度差产生的静压。
●设计压力：2.9MPa；
●适用制冷剂：R134a,R22,R407C,R404A,R507A；

LHX Series vertical siphon tank can be fixed in the unit expediently, it will reduce the equipment cost and project site construction cost.
★ Caution please:When you use plate-type oil cooler, the pressure drop of the refrigerant inlet and outlet side shall be obviously lower than the net pressure caused by the height difference between the liquid level in siphon tank and the plate-type oil cooler.
● Design pressure:2.9MPa;
● Applicable refrigerant: R134a, R22, R407C, R404A, R507A;





			LHX-DN50	LHX-DN65	LHX-DN80
常规数据 Data	液容积 Liquid vol.	1	11.0	14.7	16.8
	总容积 Total vol.	1	18	21	29
尺 寸 Dimension	ØD	mm	165	165	219
	H	mm	1085	1279	1040
	H1	mm	663	880	621
	H2	mm	168	210	211
	H3	mm	365	380	260
	H4	mm	240	400	260
	H5	mm	80	80	85
	A1	mm	163	183	210
	A2	mm	163	183	210
	A3	mm	163	163	210
	A4	mm	102	102	128
	X	mm	80	80	140
接 口 Connection	1	mm	Ø45x5 BW	Ø57x5 BW	Ø76x6 BW
	2	mm	Ø57x5 BW	Ø76x6 BW	Ø89x6 BW
	3	mm	Ø57x5 BW	Ø76x6 BW	Ø89x6 BW
	4	mm	Ø38x5 BW	Ø45x5 BW	Ø57x5 BW
	5	mm	Ø45x5 BW	Ø57x5 BW	Ø76x6 BW
	6	UNF	1-1/4"-12	1-1/4"-12	1-1/4"-12
	7	NPT	3/8″	3/8″	3/8″
连接口用途 Application of the Conn	1	--	气化后的制冷剂流回冷凝器进气口 Vaporized refrigerant flow to the gas inlet of condenser		
	2	--	冷凝后制冷剂进口 Inlet of the refrigerant after condensation		
	3	--	去储液器接口Connection to liquid receiver		
	4	--	去油冷却器接口Connection to oil cooler		
	5	--	经油冷却器吸热后制冷剂接口 Conn. for the refrigerant after adsorbing the heat in oil cooler		
	6	--	气相平衡接口Gas-phase balance connection		
	7	--	工艺阀接口 Process valve connection		
	8	--	视液镜Sigh glass		



型号 Model	蒸发温度 Evaporating temp.	-10℃	-15℃	-20℃	-25℃	-30℃	-35℃	-40℃	最大油冷负荷 Max. Oil-cooled load (KW)
LHX-DN50	R22	310	360	430	510	610	750	940	38.6
	R404A	160	210	240	290	340	410	500	24.1
	R507A	160	190	230	270	320	380	460	23.4
LHX-DN65	R22	620	720	850	1010	1220	1500	1880	57.3
	R404A	330	410	480	570	680	820	990	35.8
	R507A	320	390	460	530	630	760	920	34.7
LHX-DN80	R22	840	980	1150	1370	1660	2030	2540	94.2
	R404A	440	560	660	780	920	1110	1350	58.8
	R507A	430	530	620	730	860	1030	1250	57.0

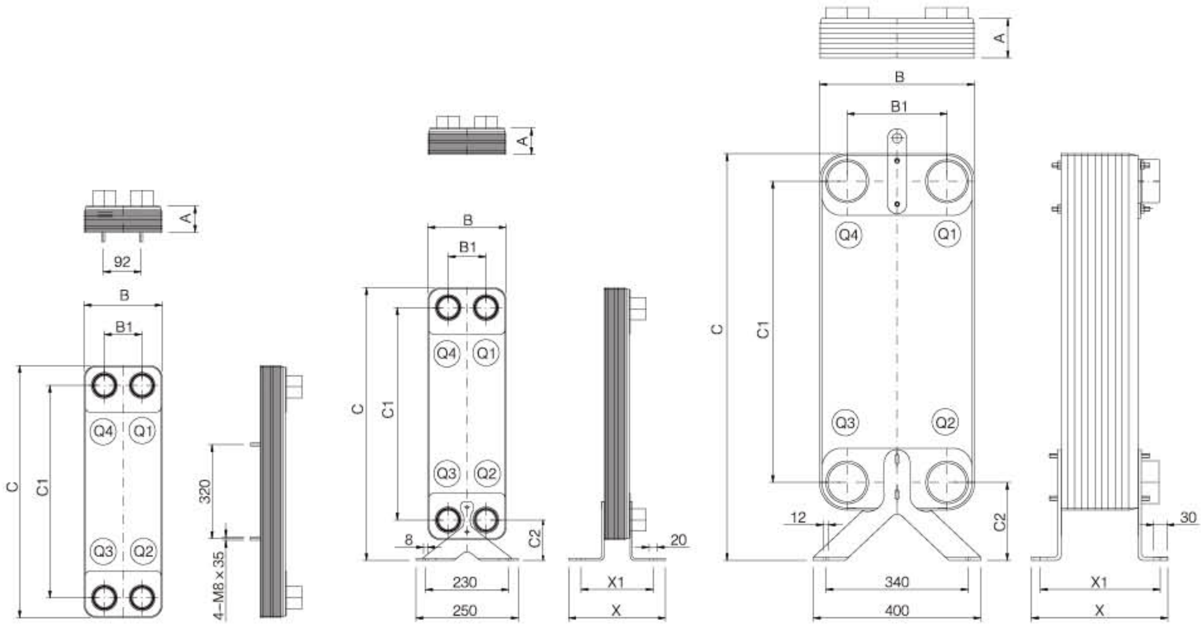
注：以上数据基于冷凝温度40℃，冷凝器后过冷度5K，吸气过热度10K，系统带经济器运行，允许压缩机最大理论排气量VH（m^3/h）。
Remark:The data above on the basis of condensing temperature 40℃, degree of super-cooling after condenser 5K, degree of super-heating of suction 10K,system running with economizer,admissible max.theoretical exhaust volume of compressor VH（m^3/h）

- 材质：316L
- 最高许可工作压力：30 bar
- 适用介质：R22, R407C, R404A, R507A,冷冻机油

- Material：316L
- Max. allowed working pressure：30 bar
- Applicative refrigerants：R22, R407C, R404A, R507A, Refrigeration oil

型号 Model	油冷负荷 Oil-cooled load （KW）	油侧进/出接口尺寸 Inlet/Outlet of oil side (mm)	制冷剂侧进/出口尺寸 Inlet/Outlet of refrigerant side (mm)
FAO-010	10	Ø35 ODS(Ø38*3 BW)	Ø35 ODS(Ø38*3 BW)/Ø42 ODS(Ø45*3 BW)
FAO-020	20	Ø35 ODS(Ø38*3 BW)	Ø35 ODS(Ø38*3 BW）/Ø42 ODS(Ø45*3 BW)
FAO-030	30	Ø42 ODS(Ø45*3 BW)	Ø35 ODS(Ø38*3 BW）/Ø42 ODS(Ø45*3 BW)
FAO-040	40	Ø42 ODS(Ø45*3 BW)	Ø42 ODS(Ø45*3 BW）/Ø54 ODS(Ø57*3.5 BW)
FAO-050	50	Ø42 ODS(Ø45*3 BW)	Ø42 ODS(Ø45*3 BW）/Ø54 ODS(Ø57*3.5 BW)
FAO-060	60	Ø54 ODS(Ø57*3.5 BW)	Ø42 ODS(Ø45*3 BW）/Ø54 ODS(Ø57*3.5 BW)
FAO-070	70	Ø54 ODS(Ø57*3.5 BW)	Ø54 ODS(Ø57*3.5 BW)/Ø76*4 BW
FAO-080	80	Ø54 ODS(Ø57*3.5 BW)	Ø54 ODS(Ø57*3.5 BW)/Ø76*4 BW
FAO-090	90	Ø54 ODS(Ø57*3.5 BW)	Ø54 ODS(Ø57*3.5 BW)/Ø76*4 BW
FAO-100	100	Ø54 ODS(Ø57*3.5 BW0	Ø54 ODS(Ø57*3.5 BW)/Ø76*4 BW
FAO-120	120	Ø76*4 BW	Ø76*4 BW/Ø89*4 BW
FAO-140	140	Ø76*4 BW	Ø89*4 BW/Ø108*4 BW
FAO-160	160	Ø76*4 BW	Ø89*4 BW/Ø108*4 BW
FAO-180	180	Ø76*4 BW	Ø89*4 BW/Ø108*4 BW
FAO-200	200	Ø89*4 BW	Ø89*4 BW/Ø108*4 BW
FAO-250	250	Ø89*4 BW	Ø89*4 BW/Ø108*4 BW

备注：
1、以上数据基于：油进口温度：80℃，油出口温度：60℃，润滑油：150POE，制冷剂温度40℃。
2、H1 > 1.5m：虹吸罐液面和板式油冷却器高度差
3、H2 > 2.5m：冷凝器进口和虹吸罐液面的高度差
4、BW：对焊焊接；ODS：插入式焊接
Remark:
1、The data above on the basis of oil inlet temperature:80℃, oil outlet temperature:60℃, lubricant:150POE, refrigerant temperature:40℃.
2、H1 > 1.5m：Height difference between the liquid level in siphon tank and plate-type oil cooler
3、H2 > 2.5m：Height difference between the inlet of condenser and liquid level in siphon tank
4、BW:Butt-jointed welding; ODS:Plug-in welding



A B C

型号 Model	A (mm)	B (mm)	B1 (mm)	C (mm)	C1 (mm)	C2 (mm)	X1 (mm)	X2 (mm)	图例 Fig.
FAO-010	57	191	92	616	519	---	---	---	a
FAO-020	91	191	92	616	519	---	---	---	a
FAO-030	123	191	92	616	519	105	295	235	b
FAO-040	158	191	92	616	519	105	330	270	b
FAO-050	197	191	92	616	519	105	369	309	b
FAO-060	231	191	92	616	519	105	403	343	b
FAO-070	147	319	205	734	622	178	307	217	c
FAO-080	164	319	205	734	622	178	324	234	c
FAO-090	181	319	205	734	622	178	341	251	c
FAO-100	203	319	205	734	622	178	363	273	c
FAO-120	237	319	205	734	622	178	397	307	c
FAO-140	270	319	205	734	622	178	430	340	c
FAO-160	309	319	205	734	622	178	469	379	c
FAO-180	343	319	205	734	622	178	503	413	c
FAO-200	377	319	205	734	622	178	537	447	c
FAO-250	461	319	205	734	622	178	621	531	c

接口用途Connection usage：

Q1：油进口 Oil inlet　Q2：油出口 Oil outlet　Q3：制冷剂进口Refrigerant inlet　Q4：制冷剂出口Refrigerant outlet

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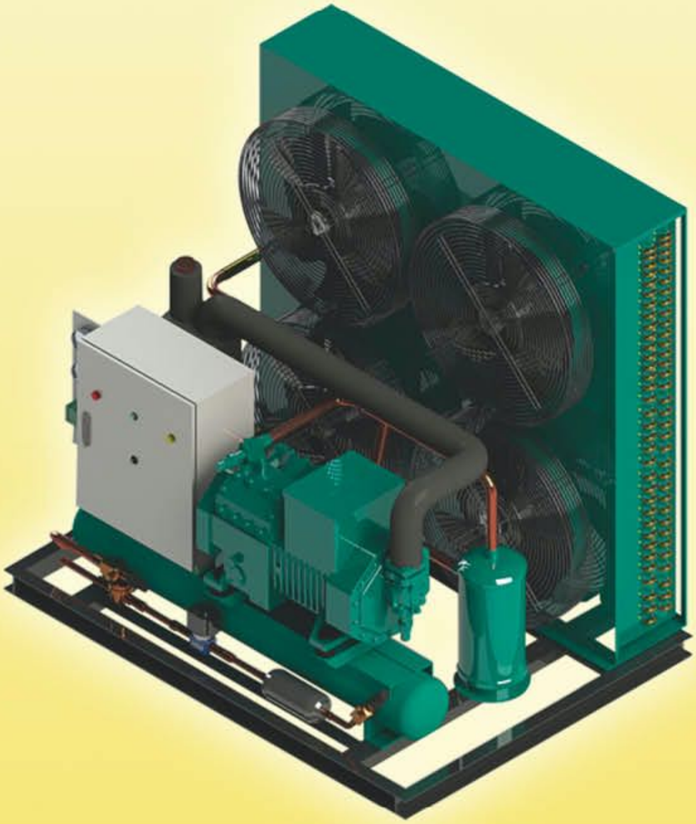
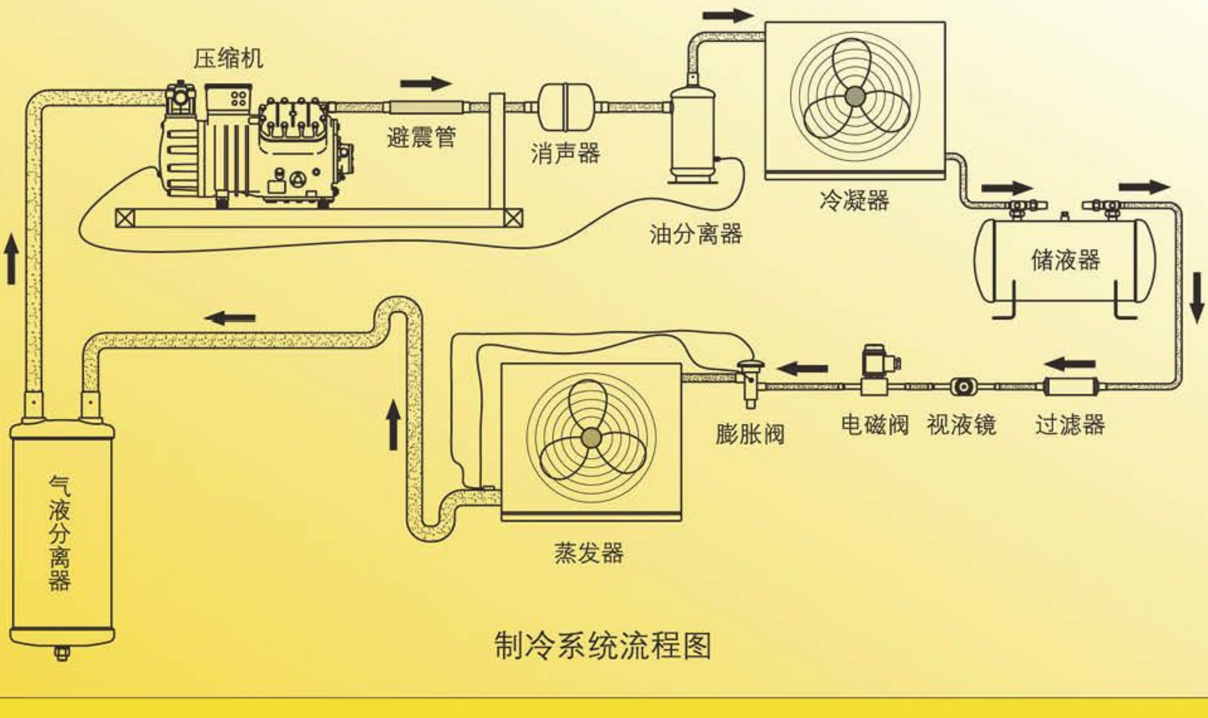
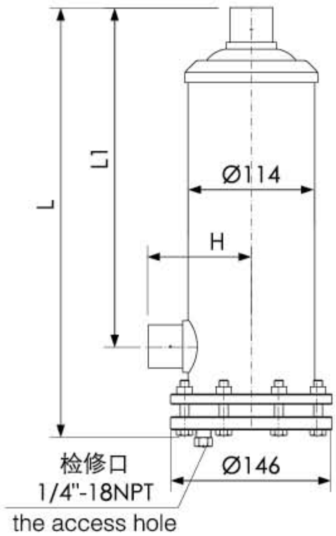


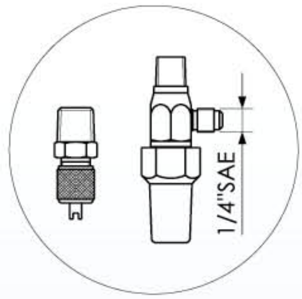


制冷系统流程图



- 作为供液管过滤器上使用时，安装FJ-48A固体干燥滤芯可以过滤系统内的杂质、吸收水分和酸性物质；
- 作为吸气管过滤器使用时，为了减少压力降，建议拆掉2个金属过滤网。使用FRE-48纤维百褶滤芯或FRE-48W不锈钢滤芯，可有效的过滤掉系统内的杂质，避免脏物进入压缩机延长压缩机的使用寿命；
- 通过高精度的法兰、组装式滤芯架和安装弹簧使更换滤芯变得非常容易；
- 法兰盘上有测量压力降和充注用的检修口；
- 进出接口材料：紫铜；
- 最大许可工作压力[bar]： 31 10
- 许可工作温度[℃]： 100...-10 -10...-40
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

- When you use the filter in liquid line, please use the filter core FJ-48A which can filter out the dirt in the system, and it also can absorb the water and acid materials;
- When you use the filter in suction line, in order to reduce the pressure drop, we suggest that you should disassemble 2 pieces of metal filter screens. And you can use the filter core FRE-48 or FRE-48W which can filter out the dirt in the system, and it also can prevent the dirt to enter into the compressor for prolonging the service life;
- With the design of high-accuracy flange and modular filter core support and assembled spring, it is so easy for you to replace the filter core;
- There is an access hole in the flange with which you can measure the pressure drop and with charging use;
- The material of inlet and outlet is copper;
- Max.Admissible Working Pressure [bar]: 31 10
- Admissible Working Temperature [℃]: 100...-10 -10...-40
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



非标配零件
Non standard parts

型号 Model	接口尺寸 Joint Size(Inch)	芯数（个） Core-Quantity （Piece）	L (mm)	L1 (mm)	H (mm)	容积 Volume (l)
FD-485	5/8"	1	231	159	83	1.6
FD-487	7/8"	1	228	154	79	1.6
FD-489	1-1/8"	1	231	154	82	1.6
FD-4811	1-3/8"	1	242	161	93	1.6
FD-4813	1-5/8"	1	242	157	93	1.6
FD-4817	2-1/8"	1	254	164	106	1.6
FD-967	7/8"	2	373	299	79	2.9
FD-969	1-1/8"	2	376	299	82	2.9
FD-9611	1-3/8"	2	387	306	93	2.9
FD-1449	1-1/8"	3	521	444	82	4.2
FD-14411	1-3/8"	3	532	451	93	4.2
FD-19211	1-3/8"	4	677	596	93	5.5
FD-19213	1-5/8"	4	677	592	93	5.5

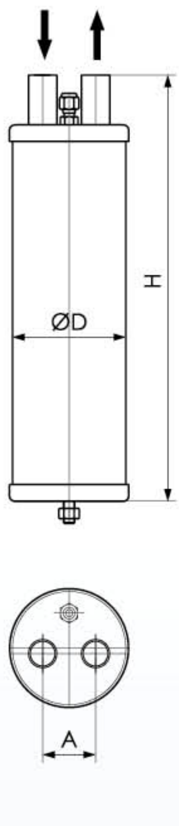
F-52 & F-62 系列油分离器 F-52 & F-62 Series Oil Separator

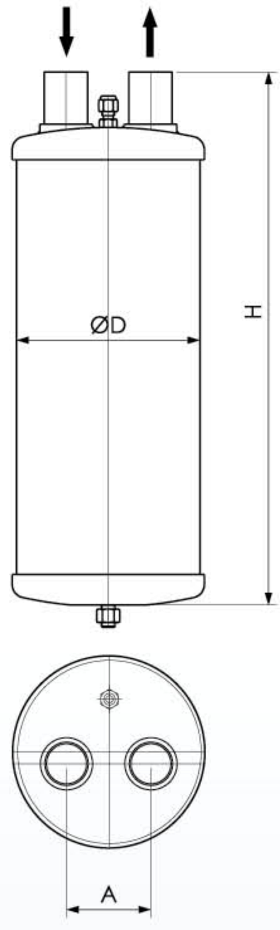
从压缩机输出的带有悬浮油颗粒的气态制冷剂进入到油分离器中，气态制冷剂携带的油经过进口金属丝网、中间隔板、出口金属丝网的拦截，油颗粒之间相互撞击并形成较重的油颗粒，这些较重的油颗粒最终撞击在油分离器的内壁上，此处具有最终分离作用。被分离出来的油滴落到油分离器的底部，并通过此处安装的浮球阀将油返回到曲轴箱或储油器中。

- 进出口材料：紫铜；
- 最大许可工作压力[bar]：　31　　10
- 许可工作温度[℃]：　140...-10　-10...-40
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

The refrigerant gas containing oil in aerosol form exported from the compressor enters into the oil separator. The oil contained in the refrigerant gas is intercepted when it passes through the inlet metal web and the middle baffle and then the outlet metal web. The oil particle collide with one another and form heavier oil particles that impinge on the surface of the oil separator's shell wall where there is a final separation. The separated oil drips to the bottom of the oil separator where a float operated needle valve returns the oil back to the crankcase or oil reservoir.

- The material of inlet and outlet is copper;
- Max.Admissible Working Pressure [bar]:　31　　10
- Admissible Working Temperature [℃]: 140...-10　-10...-40
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.

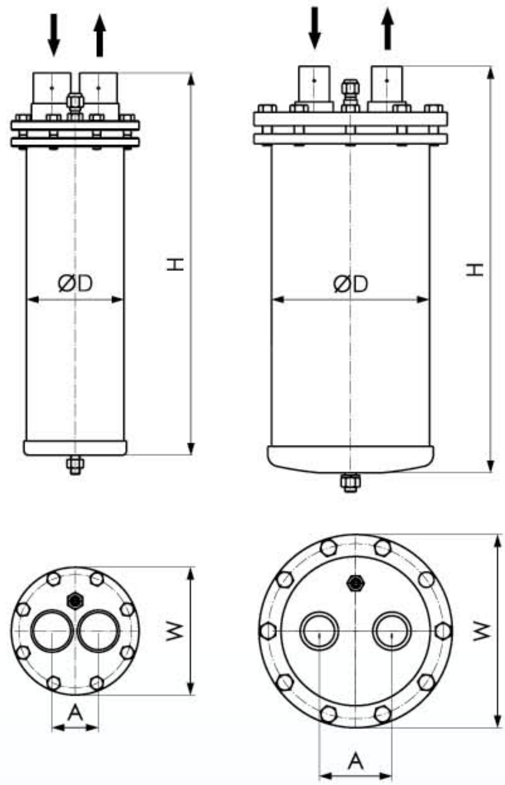




型号 Model	接口尺寸 Joint Size (Inch)	ØD (mm)	H (mm)	A (mm)	油出口 Oil Outlet (SAE)	初始注油量 First Oil Charge (l)	容积 Volume (l)	图例 Fig.
F-5200	3/8"	102	260	48	1/4"	0.5	1.5	a
F-5201	1/2"	102	260	48	1/4"	0.5	1.5	a
F-5202	5/8"	102	327	48	1/4"	0.5	2	a
F-5203	7/8"	102	384	48	1/4"	0.5	2.3	a
F-5204	1-1/8"	102	407	48	1/4"	0.5	2.6	a
F-6204	1-1/8"	165	425	76	3/8"	1.2	7.9	b
F-6205	1-3/8"	165	475	76	3/8"	1.2	8.1	b
F-6206	1-5/8"	165	480	82	3/8"	1.2	8.1	b

当制冷管路在焊接时未使用氮气就会产生氧化皮。另一方面，由于不良的系统设计或缺乏规范的维护措施会导致压缩机排气温度过高，过高的排气温度使润滑油和制冷剂炭化生成固体颗粒，这些固体脏物会影响浮球阀正常工作和堵塞回油阀。使用这款带有法兰的油分离器。可以通过打开法兰来对油分离器内部进行清洗。油分离器底部装有一块永磁铁，它可以吸附进入油分离器中的铁屑。

- 进出口材料：紫铜；
- 最大许可工作压力[bar]： 31 10
- 许可工作温度[℃]： 140...−10 −10...−40
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。



a b

During the process of welding the refrigeration line it will engender the oxide coating if you did not use the nitrogen. And in the other side, the discharge temperature will be extortionate which caused by the undesirable system design or the lack of normative maintenance method. The extortionate discharge temperature will make the lubricant and the refrigerant carbonize and then become the solid particles. These solid particles will affect the float valve's normal work and block up the oil return valve. But if you used this type of oil separator who has flange, then you can open the flange to clean the inside of it. On the bottom of the oil separator there is a piece of permanent magnet which can adsorb the scrap iron entered into the oil separator.

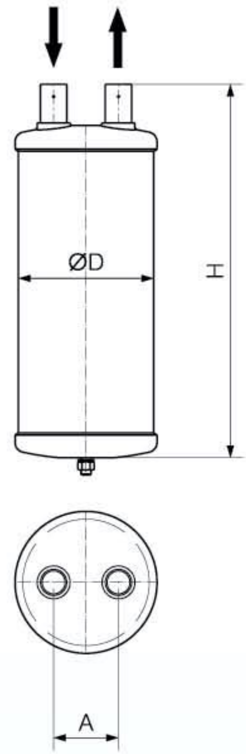
- The material of inlet and outlet is copper;
- Max.Admissible Working Pressure [bar]: 31 10
- Admissible Working Temperature [℃]: 140...−10 −10...−40
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.

型号 Model	接口尺寸 Joint Size (Inch)	ØD (mm)	H (mm)	A (mm)	W (mm)	油出口 Oil Outlet (SAE)	初始注油量 First Oil Charge (l)	容积 Volume (l)	图例 Fig.
F-5200S	3/8"	102	247	52	135	1/4"	0.5	1.5	a
F-5201S	1/2"	102	277	52	135	1/4"	0.5	1.7	a
F-5202S	5/8"	102	382	52	135	1/4"	0.5	2.0	a
F-5203S	7/8"	102	470	52	135	1/4"	0.5	3.0	a
F-5204S	1-1/8"	102	499	48	135	1/4"	0.5	3.2	a
F-5205S	1-3/8"	102	535	48	135	1/4"	0.5	3.4	a
F-6204S	1-1/8"	165	425	78	210	1/4"	1.2	7.3	b
F-6205S	1-3/8"	165	480	78	210	1/4"	1.2	8.1	b
F-6206S	1-5/8"	165	480	78	210	1/4"	1.2	8.1	b

FA系列气液分离器 FA Series Accumulator

- 安装方法：垂直安装；
- 安装气液分离器须尽量靠近压缩机的吸气口；
- 进出口材料：紫铜；
- 最大许可工作压力[bar]： 28 15
- 许可工作温度[℃]： 100...-10 -10...-50
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- 强烈推荐在蒸发温度低于-15℃的制冷装置中安装FAV系列冷热交换器。

- Installation method:Vertical installation;
- Please assemble the accumulator as close to the suction connection of compressor as possible;
- The material of inlet and outlet: Copper;
- The Max. Allowed Working Pressure [bar]: 28 15
- Allowed Working Temperature[℃]: 100...-10 -10...-50
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- It is strongly recommended to assemble FAV Series Cooling&Heating Exchanger to the refrigeration equipment whose evaporate temperature is lower than -15℃.



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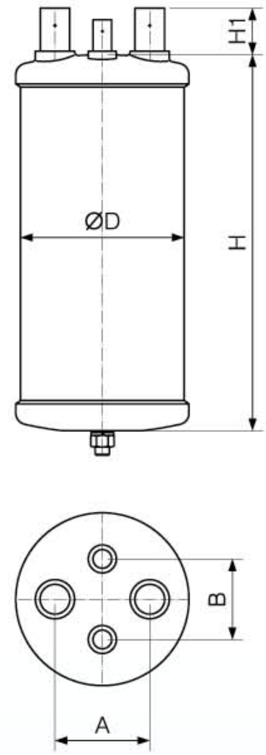
型号 Model	接口尺寸 Joint Size (Inch)	ØD (mm)	H (mm)	A (mm)	容积 Volume (l)	图例 Fig.
FA-204	1/2"	102	255	53	1.5	a
FA-205	5/8"	102	315	54	2	a
FA-206	3/4"	140	302	80	3.3	a
FA-207	7/8"	140	362	81	4.2	a
FA-208	1-1/8"	165	453	79	7.3	a
FA-209	1-3/8"	165	588	84	9.9	a
FA-210	1-5/8"	165	643	82	10.8	a

FAV系列冷热交换器内部的冷热交换管采用内螺纹+外螺纹高效紫铜管,使其具有强大的冷热交换能力。独特的U形管和回油孔设计，既保证了良好的回油效果，又可有效的避免液体制冷剂进入压缩机吸气管。

- 安装方法：垂直安装；
- 进出口材料：紫铜；
- 最大许可工作压力[bar]： 28 15
- 许可工作温度[℃]： 100...–10 –10...–50
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

The internal cooling&heating exchange tube of FAV Series cooling&heating exchanger is made by high–efficiency copper tube who has internal and external thread, so it has strong cooling and heating exchange capability. Withe the special design of U shape tube and oil return aperture, it can guarantee the oil return effect and it also can prevent the liquid refrigerant entering into the suction line of the compressor.

- Installation method: Vertical installation;
- The material of inlet and outlet: Copper;
- The Max. Allowed Working Pressure [bar] : 28 15
- Allowed Working Temperature[℃] : 100...–10 –10...–50
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



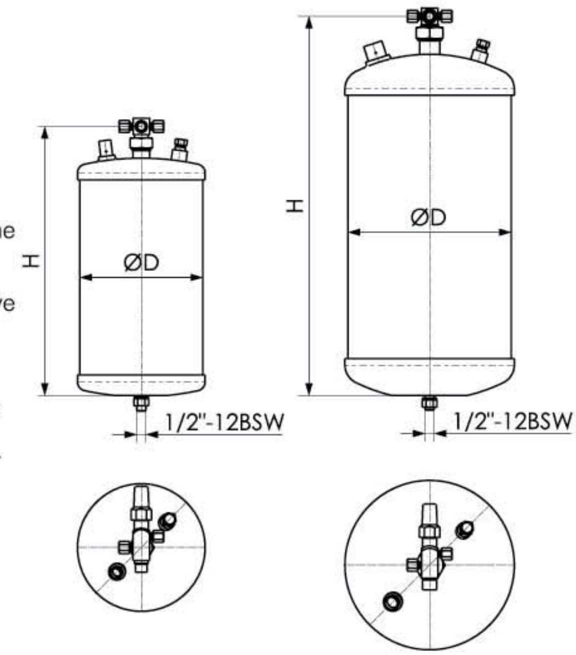
a

型号 Model	气管 Suction Pipe (Inch)	液管 Liquid Pipe (Inch)	ØD (mm)	H (mm)	H1 (mm)	A (mm)	B (mm)	ØG (mm)	Y (mm)	容积 Volume (l)	图例 Fig.
FAV–2404	1/2"	3/8"	102	220	35	53	60	––––	––––	1.5	a
FAV–2405	5/8"	3/8"	102	280	35	54	60	––––	––––	2	a
FAV–2406	3/4"	1/2"	140	262	40	80	69	––––	––––	3.3	a
FAV–2407	7/8"	1/2"	140	322	40	81	69	––––	––––	4.2	a
FAV–2411	1–1/8"	5/8"	165	403	50	79	95	––––	––––	7.3	a
FAV–2413	1–3/8"	3/4"	165	533	55	84	80	––––	––––	9.9	a
FAV–2415	1–5/8"	7/8"	165	583	60	82	81	––––	––––	10.8	a

L3系列立式储液器 L3 Series Vertical Liquid Receiver

- L3系列立式储液器进口为紫铜接口，出口为旋转锁定接头；
- 所有储液器均设计一个1/4"-18NPT安全阀接口；
- 最大许可工作压力[bar]： 31 10
- 许可工作温度[℃]： 100...-10 -10...-40
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

- The inlet of L3 series vertical liquid receiver is copper, and the outlet is rotating locked connection.
- All the models are designed with 1/4"-18NPT safety valve connection.
- Max.Admissible Working Pressure [bar]: 31 10
- Admissible Working Temperature [℃]: 100...-10 -10...-40
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.

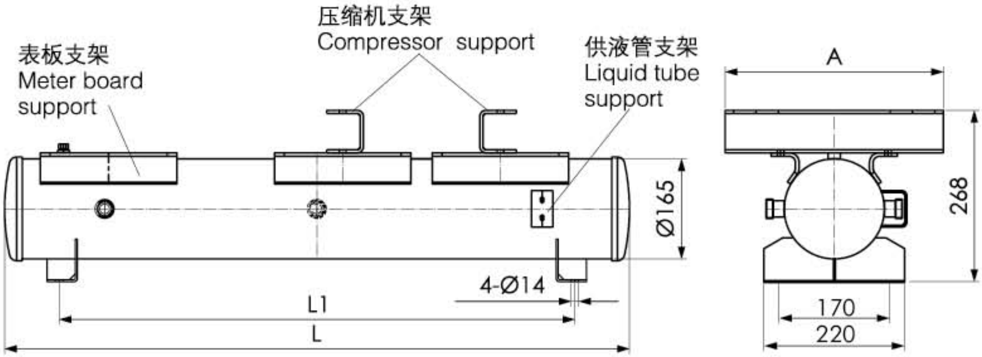


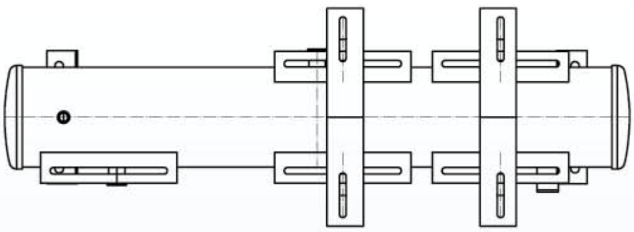
型号 Model	ØD (mm)	H (mm)	进口 Inlet	出口 Outlet	容积(l) Volume(l)	图例 Fig.
L3-04	140	365	3/8" ODS	3/8" ODS (1"-14UNS)	4	a
L3-06	165	361	1/2" ODS	1/2" ODS (1"-14UNS)	6	a
L3-08	165	461	1/2" ODS	1/2" ODS (1"-14UNS)	8	a
L3-10	165	572	5/8" ODS	5/8" ODS (1"-14UNS)	10	a
L3-15	219	508	5/8" ODS	5/8" ODS (1-1/4"-12UNF)	15	b
L3-20	219	653	5/8" ODS	5/8" ODS (1-1/4"-12UNF)	20	b

欧达●法斯克

- W4系列卧式储液器进出口均为旋转锁定接头；
- 储液器顶部均装有1/4"−18NPT接口；
- 最大许可工作压力[bar]： 31 10
- 许可工作温度[℃]： 100...−10 −10...−40
- 适用制冷剂：R134a，R22，R407C，R404A，R507A。

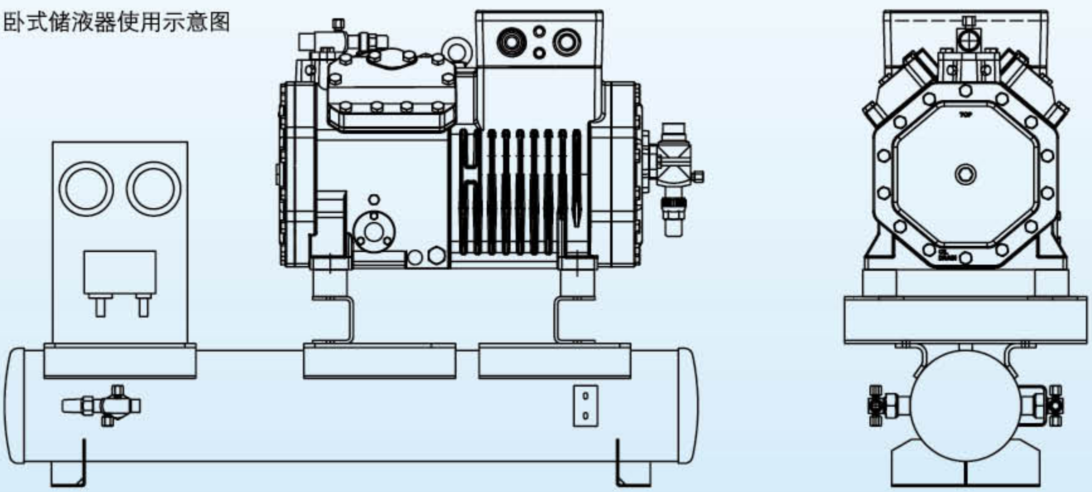
- The inlet and outlet of W4 series horizontal liquid receiver are rotating locked connections；
- There is a 1/4"−18NPT connection on the top of liquid receiver；
- Max.Admissible Working Pressure [bar]: 31 10
- Admissible Working Temperature [℃]: 100...−10 −10...−40
- Applicative refrigerants: R134a, R22, R407C, R404A, R507A.





型号 Model	L (mm)	L1 (mm)	A (mm)	进口 Inlet	出口 Outlet	容积 (l) Volume (l)
W4−16	830	600	310	5/8"ODS (1−1/4"−12UNF)	5/8"ODS (1−1/4"−12UNF)	16
W4−20	1030	850	360	5/8"ODS (1−1/4"−12UNF)	5/8"ODS (1−1/4"−12UNF)	20
W4−25	1280	1100	360	7/8"ODS (1−1/4"−12UNF)	7/8"ODS (1−1/4"−12UNF)	25

卧式储液器使用示意图

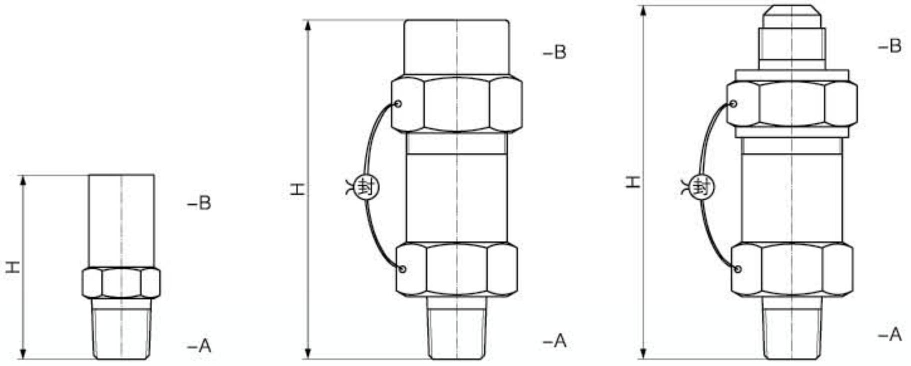


- 适用制冷剂：CFC，HCFC，HFC
- 运行温度范围：-20℃～150℃
- 整定压力：法斯克标准产品和根据客户要求订制。

- Applicative refrigerants: CFC, HCFC, HFC
- Running temperature: -20℃～150℃
- Set-pressure: O&F standard products and also can be manufactured as customers' requirements.

- 法斯克压力容器安全阀接口标准：
- 容积＜50L的，安全阀接口3/8”-18NPT；
- 容积≥50L且＜500L的，安全阀接口1/2”-14NPT；
- 容积≥500L且＜1000L的，安全阀接口3/4”-14NPT；
- 容积≥1000L的，安全阀接口1”-11.5NPT。

- O&F standard of safety valve connection on pressure vessels：
- The volume ＜50L，the safety valve connection is 3/8” -18NPT；
- the volume ≥50L & ＜500L，the safety valve connection is 1/2” -14NPT；
- the volume ≥500L & ＜1000L，the safety valve connection is 3/4” -14NPT；
- the volume ≥1000L，the safety valve connection is 1” -11.5NPT。



a b c

型 号 Model	喉径 (流通直径) Throat diameter (Flow diameter) (mm)	H (mm)	阀体六角尺寸 Valve body Six angle size (mm)	A (进口接口形式) (Inlet form)	B (出口接口形式) (Outlet form)	图例 Fig.
FV04-A100	Ø4	40	S16	1/8" MNPT	无螺纹 No Thread	a
FV04-A200	Ø4	44	S16	1/4" MNPT	无螺纹 No Thread	a
FV06-A2B2	Ø6	81	S25	1/4" MNPT	1/4" FNPT	b
FV06-A2S3	Ø6	84	S25	1/4" MNPT	3/8" MSAE	c
FV08-A3B3	Ø8	83	S25	3/8" MNPT	3/8" FNPT	b
FV08-A3S3	Ø8	87	S25	3/8" MNPT	3/8" MSAE	c
FV11-A4B4	Ø11	104	S32	1/2" MNPT	1/2" FNPT	b
FV11-A4S4	Ø11	113	S32	1/2" MNPT	1/2" MSAE	c
FV11-A6B6	Ø11	108	S32	3/4" MNPT	3/4" FNPT	b
FV18-A8B8	Ø18	121	S48	1" MNPT	1" FNPT	b

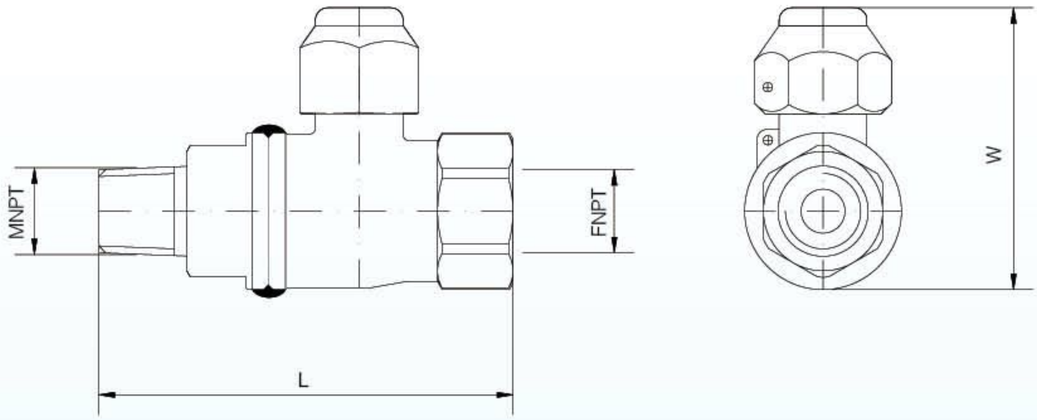
法斯克标准整定压力：O&F standard set-pressure

1、235 psig　2、300 psig　3、350 psig　4、400 psig　5、425 psig　6、450 psig
7、1.7 MPa　8、2.1 MPa　9、2.4 MPa　10、2.8 MPa　11、2.9 MPa　12、3.1 MPa

●最高许可工作压力：3.0 MPa；
●运行温度范围：-30℃ ~ +120℃；
●适用制冷剂：R134a,R22,R407C,R404A,R507A；
●阀门带铅封孔，安全阀检验完毕后请装上铅封以免误操作。

FQ2 系列球型检修阀

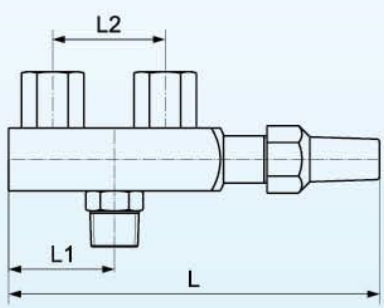
型号 Model	接口尺寸	最小流通直径	L (mm)	W (mm)
FQ2-02	1/4" FNPT	ϕ7	66	45
FQ2-03	3/8" FNPT	ϕ10	68	45
FQ2-04	1/2" FNPT	ϕ14	78	55
FQ2-06	3/4" FNPT	ϕ19	90	59
FQ2-08	1" FNPT	ϕ19	98	63



F-W Series Changeover valve for Safety Valve F-W系列安全阀用切换阀

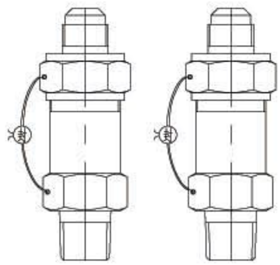
● 最大运行压力：4.2 MPa
● 适用温度：+150℃～-40℃
● 阀体、阀杆材料：碳钢
● 填料：柔性石墨
● 表面处理：镀锡

● Max. running pressure: 4.2 MPa
● Applicative temperature: +150℃～-40℃
● Material of the valve body and spindle is carbon steel
● Material of stuffing is flexible graphite
● Surface treatment: Tin plating



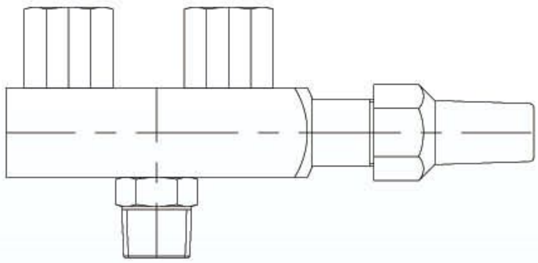
型 号 Model	安全阀接口尺寸 Conn. size of safety valve	最小流通直径 Min. flow diameter (mm)	L (mm)	L1 (mm)	L2 (mm)
F-W03	3/8" NPT	11.0	150	46	54
F-W04	1/2" NPT	13.5	150	46	54
F-W06	3/4" NPT	19.0	180	57	65
F-W08	1" NPT	23.0	216	63	80

F-W系列安全阀用切换阀总成

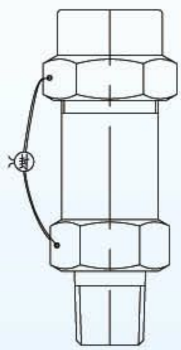


"K" 系列转换头

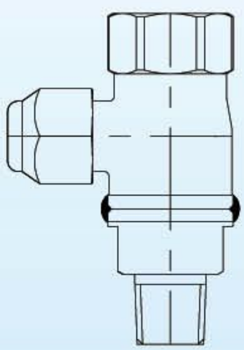
"F-W" 系列安全阀用切换阀
F-W Series Changeover valve for safety valve



球型检修阀安全阀总成



安全阀
Safety Valve



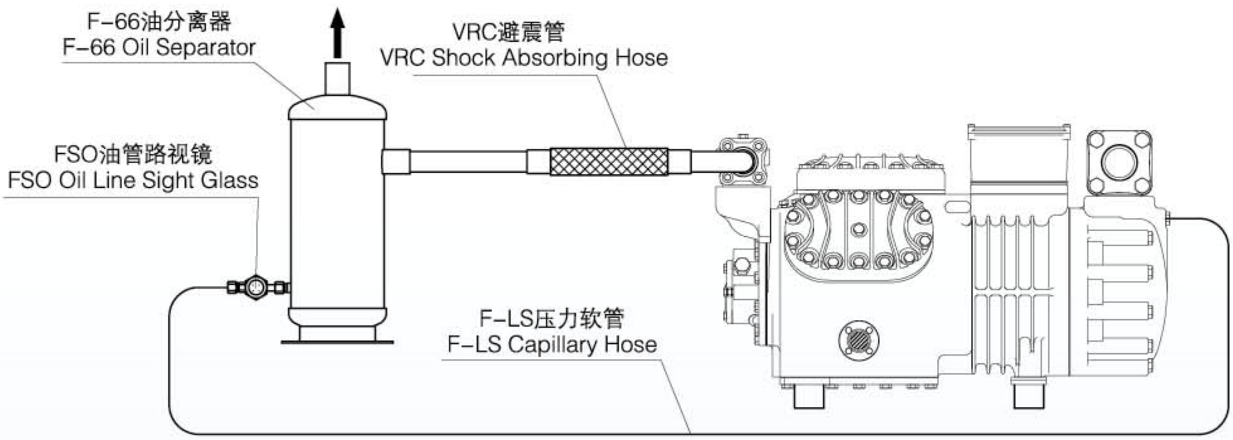
FQ2 系列球型检修阀

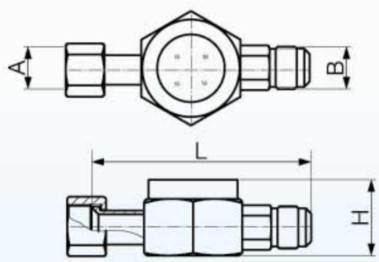
通过安装FSO视镜可以清晰的观察到油管路油的流动情况，可以安装在油分离器的回油口和螺杆式压缩机油管路上。

- 最大许可工作压力：50bar；
- 运行温度范围：-50℃～200℃；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- 适用润滑油：矿物冷冻机油（MO）、多元醇酯合成冷冻机油（POE）、烷基苯合成冷冻机油（AB）。

You can observe the oil flow clearly in the oil line through by the oil line sight glass. It can be assembled to the oil return conneciton of oil separator, or to the oil line of Screw Compressor.

- Max.Admissible Working Pressure: 50bar;
- Running temperature range: -50℃～200℃;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- Can be used with mineral oil (MO)、full synthetic (POE)、semi-synthetic lubricant(AB).





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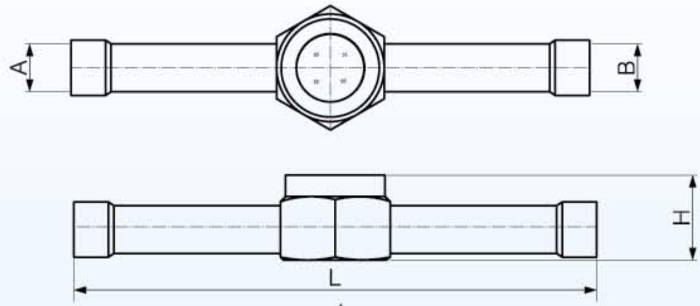


b

型 号 Model	视孔直径 Sight hole diameter (mm)	L (mm)	H (mm)	A (接口形式) (Conn. type)	B (接口形式) (Conn. type)	图例 Fig.
FSO-02	Ø19	75	20.0	1/4"SAE内螺纹	1/4"SAE外螺纹	a
FSO-03	Ø21	86	24.5	3/8"SAE内螺纹	3/8"SAE外螺纹	a
FSO-04	Ø21	88	24.5	1/2"SAE内螺纹	1/2"SAE外螺纹	a
FSO-03S	Ø21	120	24.5	3/8" ODS	3/8" ODS	b
FSO-04S	Ø21	120	24.5	1/2" ODS	1/2" ODS	b
FSO-05S	Ø21	124	29.5	5/8" ODS	5/8" ODS	b
FSO-07S	Ø21	160	34.5	7/8" ODS	7/8" ODS	b
FSO-09S	Ø21	160	41.0	1-1/8" ODS	1-1/8" ODS	b

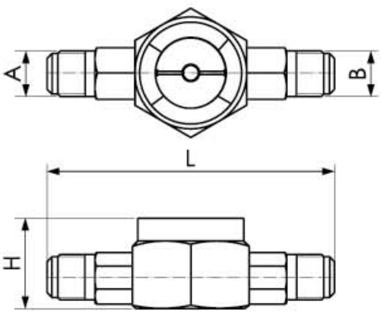
FSG 系列视液镜 FSG Series Sight Glass

视液镜被广泛地用于监测制冷剂在液体管路中的状态，显示制冷剂中的含水量。

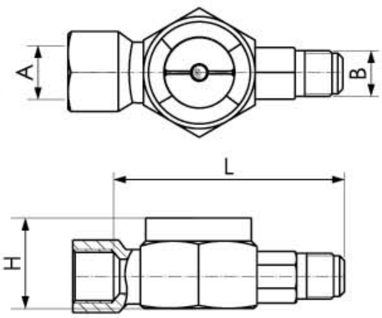
- 最大许可工作压力：50bar；
- 运行温度范围：-50℃～85℃；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

The sight glass is used extensively for monitoring the refrigerant status in the liquid tube line, it can show you the water content in the refrigerant.

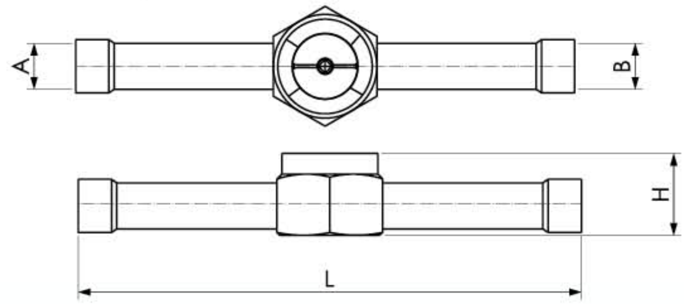
- Max.Admissible Working Pressure: 50bar;
- Running temperature range: -50℃～85℃;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



a



b



c

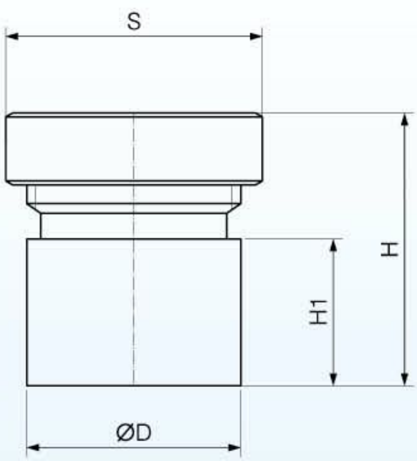
型 号 Model	视孔直径 Sight hole diameter (mm)	L (mm)	H (mm)	A (接口形式) (Conn. type)	B (接口形式) (Conn. type)	图例 Fig.
FSG-03	Ø21	87	24.5	3/8"SAE外螺纹 3/8"SAE Male thread	3/8"SAE外螺纹 3/8"SAE Male thread	a
FSG-04	Ø21	91	29.5	1/2"SAE外螺纹 1/2"SAE Male thread	1/2"SAE外螺纹 1/2"SAE Male thread	a
FSG-05	Ø21	94	32	5/8"SAE外螺纹 5/8"SAE Male thread	5/8"SAE外螺纹 5/8"SAE Male thread	a
FSG-03N	Ø21	65	24.5	3/8"SAE内螺纹 3/8"SAE Female thread	3/8"SAE外螺纹 3/8"SAE Male thread	b
FSG-04N	Ø21	68	24.5	1/2"SAE内螺纹 1/2"SAE Female thread	1/2"SAE外螺纹 1/2"SAE Male thread	b
FSG-05N	Ø21	72	29.5	5/8"SAE内螺纹 5/8"SAE Female thread	5/8"SAE外螺纹 5/8"SAE Male thread	b
FSG-03S	Ø21	120	24.5	3/8" ODS	3/8" ODS	c
FSG-04S	Ø21	120	24.5	1/2" ODS	1/2" ODS	c
FSG-05S	Ø21	124	29.5	5/8" ODS	5/8" ODS	c
FSG-07S	Ø21	160	34.5	7/8" ODS	7/8" ODS	c
FSG-09S	Ø21	160	41.0	1-1/8" ODS	1-1/8" ODS	c

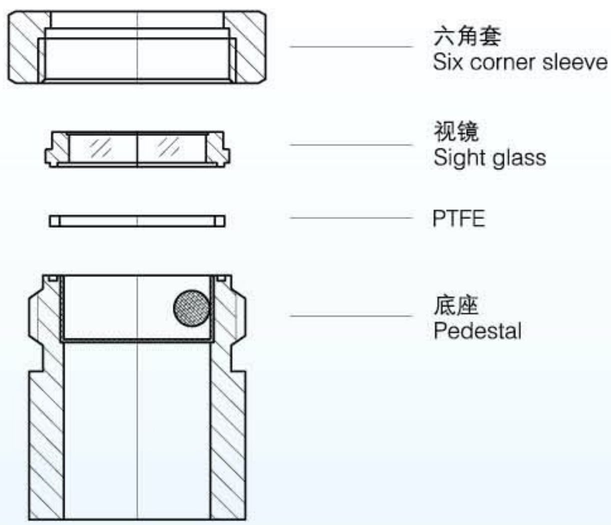
通过安装FSZ视镜可以清晰的观察到容器内部的制冷剂和油，整体碳钢设计，聚四氟乙烯密封（PTFE），内置一颗红色浮球。

- 最大许可工作压力：42bar；
- 运行温度范围：-50℃～200℃；
- 安装方便、易操作，不会拧坏玻璃或螺纹；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- 适用润滑油：矿物冷冻机油（MO）、多元醇酯合成冷冻机油（POE）、烷基苯合成冷冻机油（AB）。

You can observe the oil and refrigerant inside of the vessel clearly through by the combined type sight glass. It is made by carbon steel and sealed with Polytetrafluoroethylene（PTFE）, and inside of it there is a red float.

- Max.Admissible Working Pressure: 42bar;
- Running temperature range: -50℃～200℃;
- Easy installation and operation, avoid to damage the glass or thread;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- Can be used with mineral oil (MO)、full synthetic (POE)、semi-synthetic lubricant(AB).

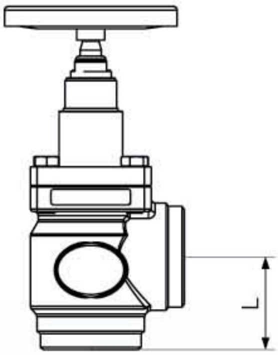


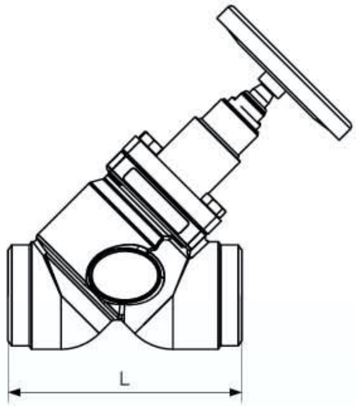


型 号 Model	视孔直径 Sight hole diameter (mm)	S (mm)	ØD (mm)	H1 (mm)	H (mm)
FSZ-19	19	36	32	23	51
FSZ-27	27	50	44	21	48
FSZ-36	36.3	64	57	21	52
FSZ-45	44.5	75	68	71	104

- Kv值高，压力降小；
- 最大许可工作压力：60 bar；
- 运行温度范围：-50℃～150℃；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- 口径：DN15～DN200，直角型和直通型。

- The Kv value is high and pressure droop is little;
- Max.Admissible Working Pressure: 60 bar;
- Running temperature: -50℃～150℃;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- Caliber: DN15～DN200, and with right-angled type and straight-way type.

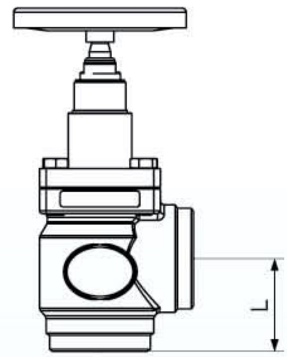


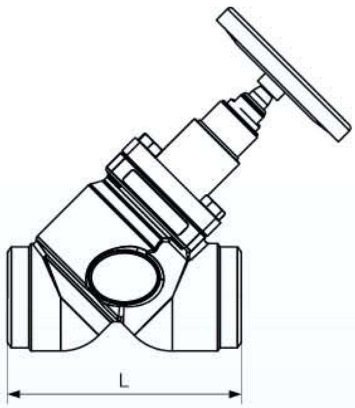


形式 Form	型号 Model	L (mm)	形式 Form	型号 Model	L (mm)
直角式截止阀 Right-angled type cut-off valve	SVD-15A	45	直通式截止阀 Straight-way type cut-off valve	SVD-15S	120
	SVD-20A	45		SVD-20S	120
	SVD-25A	45		SVD-25S	120
	SVD-32A	56		SVD-32S	156
	SVD-40A	56		SVD-40S	156
	SVD-50A	62		SVD-50S	149
	SVD-65A	70		SVD-65S	176
	SVD-80A	91		SVD-80S	216
	SVD-100A	107		SVD-100S	264
	SVD-125A	135		SVD-125S	330
	SVD-150A	146		SVD-150S	370
	SVD-200A	192		SVD-200S	460

- Kv值高，压力降小
- 最大运行压力：60 bar
- 运行温度范围：-50℃～150℃
- 适用制冷剂：R134a,R22,R407C,R404A,R507A
- 口径：DN15～DN125，直角型和直通型

- The Kv value is high and pressure droop is little
- The max. running pressure: 60 bar
- Running temperature: -50℃～150℃
- Applicative refrigerants: R134a, R22, R407C, R404A, R507A
- Caliber: DN15～DN125, and with right-angled type and straight-way type





形式 Form	型号 Model	L (mm)	形式 Form	型号 Model	L (mm)
直角式 截止止回阀 Right-angled type Stop cut-off valve	SCV-15A	45	直通式 截止止回阀 Straight-way type Stop cut-off valve	SCV-15S	120
	SCV-20A	45		SCV-20S	120
	SCV-25A	45		SCV-25S	120
	SCV-32A	56		SCV-32S	156
	SCV-40A	56		SCV-40S	156
	SCV-50A	62		SCV-50S	149
	SCV-65A	70		SCV-65S	176
	SCV-80A	91		SCV-80S	216
	SCV-100A	107		SCV-100S	264
	SCV-125A	135		SCV-125S	330

性能：

– 高伸缩性
– 不再需要铜管焊接、扩口和弯曲
– 节约系统装配时间
– 极低的制冷剂渗透率

Advantages

- *High flexibility*
- *No more brazing, flaring and bending of copper tubes*
- *Time saving for system construction and assembling*
- *Very low refrigerating gas permeation rate.*

我们的生产品种 *Our Product Line*		应用范围的样例 *Some examples of application fields*
	毛细热塑软管 *Capillary Thermoplastic Hose*	连接压力表，压力控制装置和回油管 *Connection with pressure gauge, control units and pipe of oil retarn.*

软管装配整体长度（mm）*Hose Assembly Overall Length mm.*

内径为2mm热塑软管手动安装说明

工作温度：–40℃~ + 130℃，工作压力：45bar

Instructions for manual assembling of capillary hose ID 2mm

Working temperature-40℃～+130℃-Working pressure 45 bar

如何使用手钳?

装配软管时，先检查扣压成形的套管的平均直径为7.1mm（1/4直径最大允许7.3mm）。如果不是，请按上述尺寸调整凸轮轴至套管成形尺寸合格为止。

How to regulate hand pliers

Assemble one hose and check that the average diameter of the crimped sleeve is 7,1mm (just one of the four diameters can be maximum 7,3mm). If not, regulate the cam till the obtained crimped sleeve is perfect on the basis of the above mentioned measures.

1 

使用自动或手动的切割器来断管，切割必须完全平直和平滑；

Cut the hose using proper shears, automatic or manual cutters. The cut must be perfectly square and smooth.

2 

将套管穿在软管上，并使套管上的凹槽朝向软管连接处。

Insert the sleeve on the hose with the groove towards the hose side to be assembled.

3 

将螺母穿在软管上

Insert the nut onto the hose.

4 

将接头插入软管内；

Push the insert inside the hose.

5 

将螺母滑至接头外表面，同时将套管推至并覆盖插头底部。

Make the nut slide onto the external part of the insert (flare) and push the sleeve till it covers the bottom of the free insert.

6 

使用固定手钳扣压软管时，应使套管覆盖软管的整个表面。将套管成形直到手钳自动打开，第二次扣压是为了确保安全无渗漏。

Assemble the hose by positioning manual pliers on the sleeve covering its whole surface. Crimp till hand pliers open automatically. A second crimping is useful to obtain a safer assembling.

内径2mm毛细热塑管
Capillary Thermoplastic Hose ID 2 mm

部件编号 Hose Part Number	颜色 Colour	内径 Inner Diameter	外径 Outer Diameter	公差 Tolerances	最小弯曲半径 Min Bending Radius	工作压力 Working Pressure	工作压力 Working Pressure	重量 Weight
41000100	Black	2.0 mm	5.9 mm	0.1 mm	10 mm	45 bar	653 PSI	30 g/m
41000100-B	Blue	2.0	5.9	0.1	10	45	653	30
41000100-R	Red	2.0	5.9	0.1	10	45	653	30

☆上述所有尺寸的软管可根据长度需要自行裁剪 工作温度：–40℃~＋130℃，工作压力：45bar

All the above sizes are available pre assembled with crimped fittings on required lengths - Working temp. -40℃~+130℃ Working pressure 45 bar

A 内径为2mm的热塑软管是连接压力控制装置的最佳选择。（压力和温度测量仪器）

The thermoplastic hoses ID 2 mm are the ideal solution for the connection with pressure control units (pressure and temperature gauges).

内径为2mm毛细热塑软管零件和附件
Fittings and Accessories for Capillary Hose ID 2 mm

套管
Sleeve

编码/Code 41100107

直接头
Insert

编码/Code 41100101

带销子直接头
Insert with depressor

编码/Code 41100102

销子
Depressor

编码/Code 41400100

螺母
Nut

编码/Code 41100201

90° 弯接头
Insert 90°

编码/Code 41100202

三通接头
Tee nipple

编码/Code 41100104

中间带螺母三通接头
Tee female nipple

编码/Code 41100203

侧面带螺母三通接头
180° Tee female nipple

编码/Code 41100204

1/4"铜垫片
1/4" Copper gasket

编码/Code 41400101

封管钳
Hand crimper

编码/Code 41500100

断管钳
Snips

编码/Code 41500101

内径4mm毛细热塑软管
Capillary Thermoplastic Hose ID 4 mm

部件编号 Hose Part Number	颜色 Colour	内径 Inner Diameter (mm)	外径 Outer Diameter (mm)	公差 Tolerances (mm)	最小弯曲半径 Min Bending Radius (mm)	工作压力 Working Pressure (bar)	工作压力 Working Pressure (PSI)	重量 Weight (g/m)
41000101	Black	4.0	8.2	0.1	35	45	653	50
41000101-B	Blue	4.0	8.2	0.1	35	45	653	50
41000101-R	Red	4.0	8.2	0.1	35	45	653	50

☆上述所有尺寸的软管可根据长度需要自行裁剪 工作温度：-40℃~+130℃，工作压力：45bar

All the above sizes are available pre assembled with crimped fittings on required lengths - Working temp.-40℃~+130℃ Working pressure 45 bar

内径为4mm毛细管的扣压零件及配件
Crimp Fittings and Accessories for Capillary Hose ID 4 mm

A 内径为4mm的毛细热塑软管是连接压力控制装置和回油装置的最佳选择。

The capillary thermoplastic hoses ID 4 mm are the ideal solution for:
- *the connection with pressure control units (pressure gauges)*
- *oil return.*

内径为软管的1/4SAE配件 *1/4" SAE fittings for 1/4" hose ID 4 mm*

套管
Sleeve

编码/Code 41200106

直接头
Insert

编码/Code 41200100

螺母
Nut

编码/Code 41100201

90° 弯接头
Insert 90°

编码/Code 41200201

三通接头
Tee nipple

编码/Code 41200102

中间带螺母三通接头
Tee female nipple

编码/Code 41200202

侧面带螺母三通接头
180°Tee female nipple

编码/Code 41200203

销子
Depressor

编码/Code 41400100

1/4"铜垫片
1/4" Copper gasket

编码/Code 41400101

便于和铜垫圈组装的特殊直插头
Special insert for an easy assembly of copper washers

编码/Code 41200105

封管钳
Hand crimper

编码/Code 41500102

断管钳
Snips

编码/Code 41500101

配内径为4mm软管的3/8" SAE零件 *3/8" SAE fittings for 1/4" hose ID 4mm*

直接头
Insert

编码/Code 41300100

螺母
Nut

编码/Code 41300102

90° 弯接头
Insert 90°

编码/Code 41300101

3/8"铜垫片
3/8" Copper gasket

编码/Code 41400102

软管部件号 Hose Part Number	内径 Inner Diameter	外径 Outer Diameter	公差 Tolerances	最小弯曲半径 Min Bending Radius	工作压力 Working Pressure	工作压力 Working Pressure	重量 Weight
42000060	4.4 mm	9.7 mm	0.1 mm	50 mm	45 bar	580 PSI	80 g/m
42000080	6.5	11.9	0.10	55	45	580	100
42000100	8.5	13.9	0.15	60	45	580	120
42000130	10.5	16.0	0.15	80	45	580	140
42000160	13.5	19.3	0.15	150	45	580	180
42000190	17.5	23.6	0.20	200	45	580	240

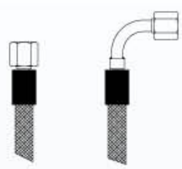
上述所有尺寸的软管可根据长度需要自行裁剪工作温度：-40 ℃ ~ +130 ℃，工作压力：45 bar

All the above sizes are available pre assembled with crimped fittings on required lengths-Working temp. -40℃ ~ +130℃, Working pressure 45 bar.

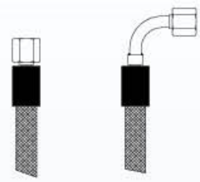
F-LS系列压力软管的扣压零件及配件

Fittings and Accessories for Capillary Hose F-LS

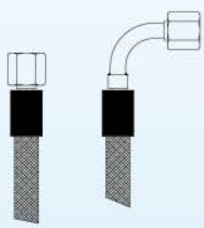
42000060 软管 Hose
1/4"SAE 直接头(7/16"-20UNF) Insert
1/4"SAE 90° 弯接头(7/16"-20UNF)
Insert 90°



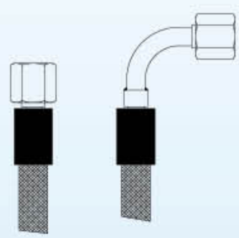
42000080 软管 Hose
3/8"SAE 直接头(5/8"-18UNF) Insert
3/8"SAE 90° 弯接头(5/8"-18UNF)
Insert 90°



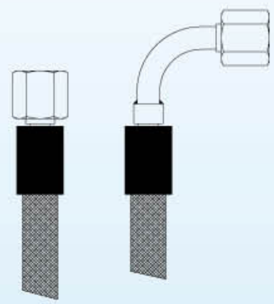
42000100 软管 Hose
3/8"SAE 直接头(5/8"-18UNF) Insert
3/8"SAE 90° 弯接头(5/8"-18UNF)
Insert 90°



42000130 软管 Hose
1/2"SAE 直接头(3/4"-16UNF) Insert
1/2"SAE 90° 弯接头(3/4"-16UNF)
Insert 90°



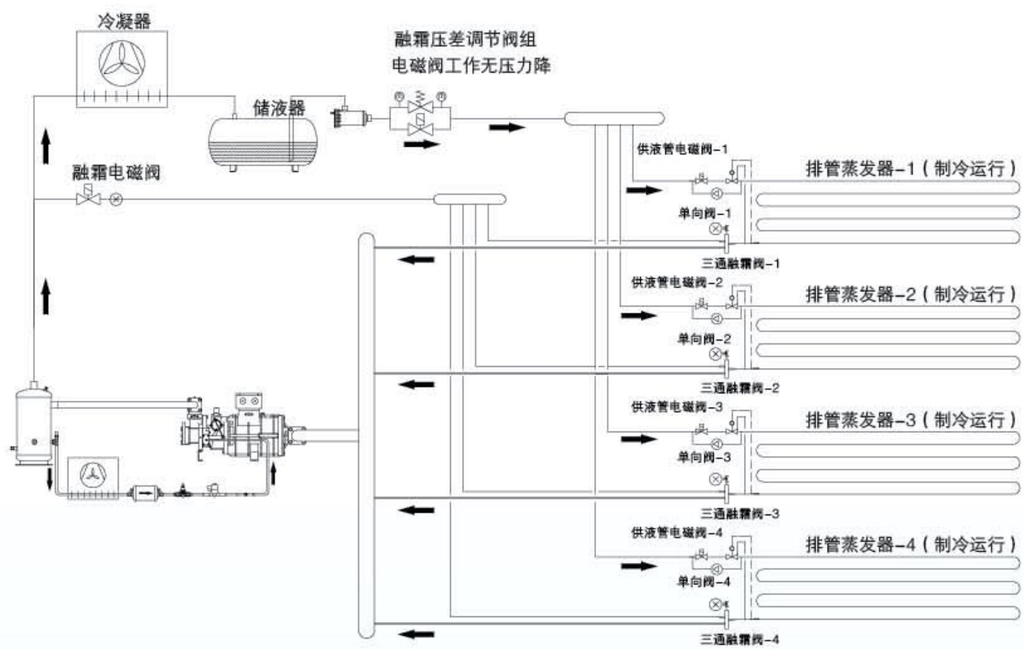
42000160 软管 Hose
5/8"SAE 直接头(7/8"-14UNF) Insert
5/8"SAE 90° 弯接头(7/8"-14UNF)
Insert 90°



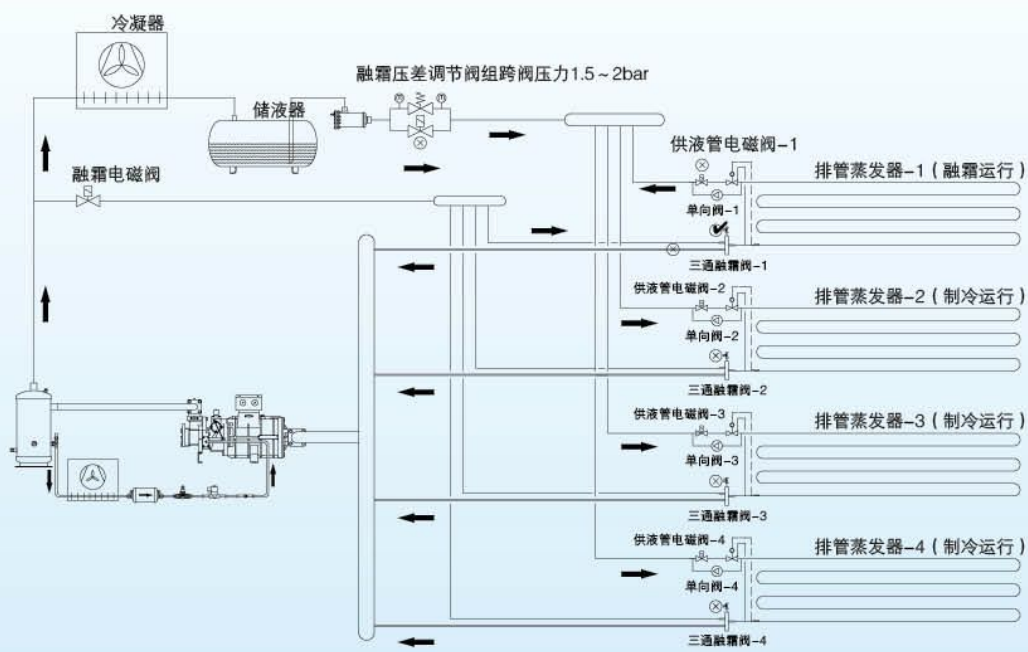
42000190 软管 Hose
7/8"SAE 直接头(1-1/16"-14UNF) Insert
7/8"SAE 90° 弯接头(1-1/16"-14UNF)
Insert 90°

排管蒸发器热氟融霜系统图 Hot fluorine defrosting system for coil evaporator diagram

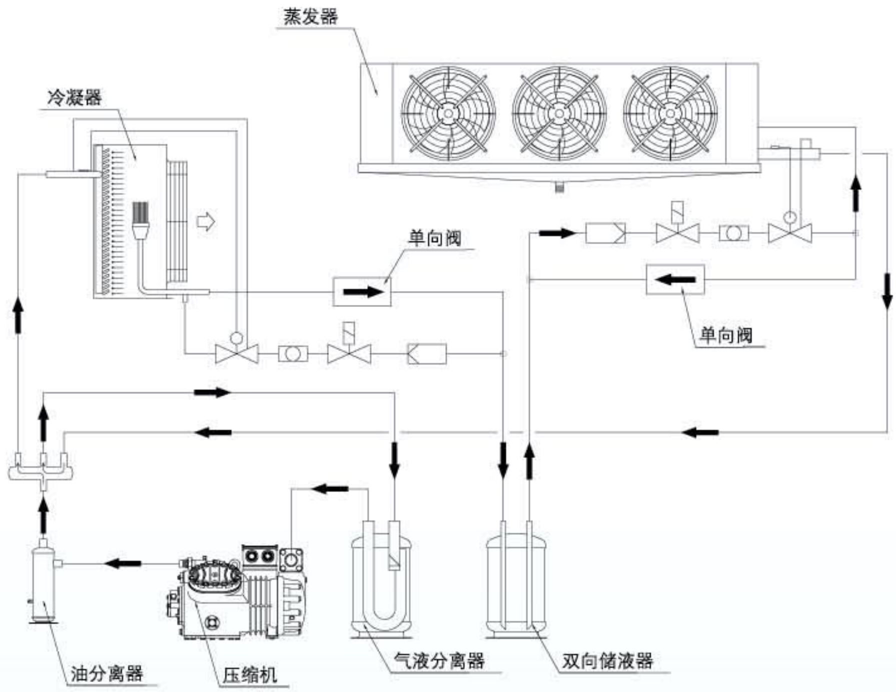
制冷模式 Refrigeration mode



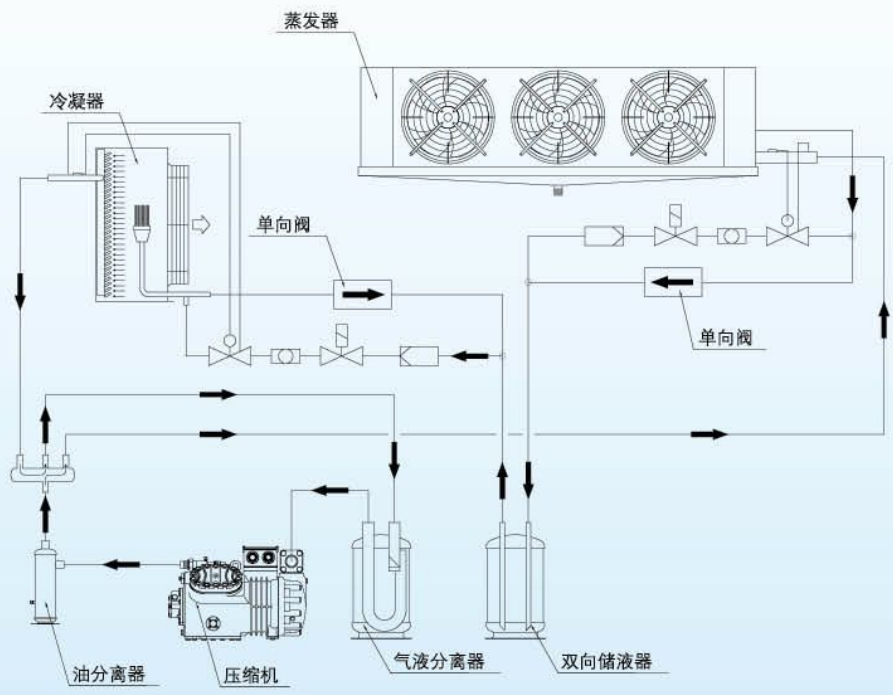
融霜模式 Defrosting mode



制冷模式 Refrigeration mode

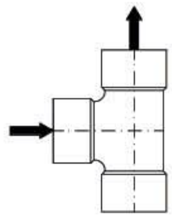


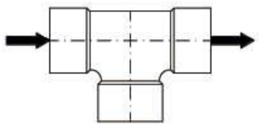
融霜模式 Defrosting mode

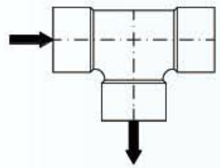


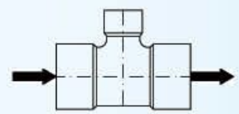
制冷剂通过截止阀和管件时形成摩擦阻力用相同管径直管段表示的长度

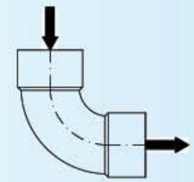
紫铜管外径	1/2″	5/8″	7/8″	1–1/8″	1–3/8″	1–5/8″	2–1/8″	2–5/8″	3–1/8″
黄铜直通截止阀	0.36m	0.41m	0.56m	0.71m	0.91m	1.01m	1.45m	1.75m	2.11m
黄铜直角截止阀	0.18m	0.23m	0.31m	0.38m	0.46m	0.53m	0.71m	0.86m	1.07m
90˚ 转弯通过三通	0.08m	0.10m	0.13m	0.15m	0.20m	0.23m	0.31m	0.36m	0.43m
T型三通（直穿）或向下	0.02m	0.03m	0.04m	0.05m	0.06m	0.08m	0.09m	0.10m	0.13m
90˚ 弯头或异径三通（直穿）	0.03m	0.05m	0.05m	0.08m	0.10m	0.10m	0.13m	0.18m	0.20m


90° 转弯通过三通


T型三通（直穿）

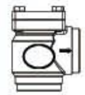
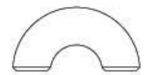
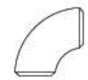

T型三通向下


90° 弯头


异径三通直穿

备注：所列摩擦阻力形成的相同管径直管段表示的长度，阀门系处于全开位置时的数据。

制冷剂通过截止阀和管件时形成摩擦阻力用相同管径直管段表示的长度

无缝钢管公称直径		45° 斜柄阀	角阀	升降式止回阀		90° 长半径弯头	180° 长半径弯头
mm	in						
15	1/2"	2.13	2.13	2.13	2.13	0.31	0.76
20	3/4"	2.74	2.74	2.74	2.74	0.43	0.98
25	1"	3.66	3.66	3.66	3.66	0.52	1.25
32	11/4"	4.57	4.57	4.57	4.57	0.70	1.71
40	11/2"	5.49	5.49	5.49	5.49	0.79	1.92
50	2"	7.32	7.32	7.32	7.32	1.01	2.50
65	21/2"	8.84	8.84	8.84	8.84	1.25	3.05
75	3"	10.67	10.67	10.67	10.67	1.52	3.66
90	31/2"	12.50	12.50	12.50	12.50	1.80	4.57
100	4"	14.33	14.33	14.33	14.33	2.04	5.18
125	5"	17.68	17.68	17.68	17.68	2.50	6.40
150	6"	21.34	21.34	21.34	21.34	3.05	7.62
200	8"	25.91	25.91	25.91	25.91	3.96	10.06
250	10"	32.00	32.00	32.00	32.00	4.88	12.80
300	12"	39.62	39.62	39.62	39.62	5.79	

备注：所列摩擦阻力形成的相同管径直管段表示的长度，阀门系处于全开位置时的数据。

垂直上升制冷剂液管压力损失和需要的最小过冷度

上升（m）	3.05		4.57		6.10		7.62		9.14		12.2		15.2		22.9		30.5	
	bar	℃	bar	℃	bar	℃	bar	℃	bar	℃	bar	℃	bar	℃	bar	℃	bar	℃
R22	0.33	0.90	0.50	1.29	0.67	1.73	0.83	2.12	1.00	2.62	1.34	3.45	1.67	4.45	2.50	6.73	3.34	9.18
R404A/R507A	0.28	0.62	0.42	0.90	0.57	1.18	0.70	1.51	0.84	1.84	1.12	2.29	1.41	3.12	2.11	4.62	2.81	6.57

备注：
1、以上数据基于上升管底部液体温度43.3℃
2、垂直上升液管的压力损失意味着消耗额外的过冷度，过冷度消耗到“0”时制冷剂进入饱和状态，可能出现闪发气体；
3、闪发气体将影响膨胀阀正常工作，同时导致系统制冷量降低。

制冷量-库温-管径对照表
(R22)

	管径				
库温	-25℃	-18℃	0℃	5℃	10℃
制冷量/KW	供液管&回气管	供液管&回气管	供液管&回气管	供液管&回气管	供液管&回气管
1	3/8″ & 5/8″	3/8″ & 1/2″	3/8″ & 3/8″	3/8″ & 3/8″	3/8″ & 3/8″
2	3/8″ & 7/8″	3/8″ & 5/8″	3/8″ & 1/2″	3/8″ & 1/2″	3/8″ & 3/8″
3	3/8″ & 7/8″	3/8″ & 7/8″	3/8″ & 5/8″	3/8″ & 5/8″	3/8″ & 1/2″
4	3/8″ & 1-1/8″	3/8″ & 7/8″	3/8″ & 5/8″	3/8″ & 5/8″	3/8″ & 5/8″
5	3/8″ & 1-1/8″	3/8″ & 1-1/8″	3/8″ & 7/8″	3/8″ & 7/8″	3/8″ & 5/8″
6	3/8″ & 1-3/8″	3/8″ & 1-1/8″	3/8″ & 7/8″	3/8″ & 7/8″	3/8″ & 7/8″
7	3/8″ & 1-3/8″	3/8″ & 1-3/8″	3/8″ & 7/8″	3/8″ & 7/8″	3/8″ & 7/8″
8	1/2″ & 1-3/8″	1/2″ & 1-3/8″	1/2″ & 1-1/8″	1/2″ & 7/8″	1/2″ & 7/8″
9	1/2″ & 1-5/8″	1/2″ & 1-3/8″	1/2″ & 1-1/8″	1/2″ & 7/8″	1/2″ & 7/8″
10	5/8″ & 1-5/8″	1/2″ & 1-3/8″	1/2″ & 1-1/8″	1/2″ & 1-1/8″	1/2″ & 7/8″
12	5/8″ & 2-1/8″	5/8″ & 1-5/8″	5/8″ & 1-1/8″	5/8″ & 1-1/8″	5/8″ & 1-1/8″
15	5/8″ & 2-1/8″	5/8″ & 1-5/8″	5/8″ & 1-3/8″	5/8″ & 1-3/8″	5/8″ & 1-1/8″
18	5/8″ & 2-1/8″	5/8″ & 2-1/8″	5/8″ & 1-3/8″	5/8″ & 1-3/8″	5/8″ & 1-3/8″
20	7/8″ & DN65	7/8″ & 2-1/8″	7/8″ & 1-5/8″	7/8″ & 1-3/8″	5/8″ & 1-3/8″
22	7/8″ & DN65	7/8″ & 2-1/8″	7/8″ & 1-5/8″	7/8″ & 1-3/8″	7/8″ & 1-3/8″
25	7/8″ & DN65	7/8″ & 2-1/8″	7/8″ & 1-5/8″	7/8″ & 1-5/8″	7/8″ & 1-3/8″
28	7/8″ & DN65	7/8″ & DN65	7/8″ & 1-5/8″	7/8″ & 1-5/8″	7/8″ & 1-5/8″
30	7/8″ & DN65	7/8″ & DN65	7/8″ & 2-1/8″	7/8″ & 1-5/8″	7/8″ & 1-5/8″
32	7/8″ & DN80	7/8″ & DN65	7/8″ & 2-1/8″	7/8″ & 1-5/8″	7/8″ & 1-5/8″
35	1-1/8″ & DN80	1-1/8″ & DN65	7/8″ & 2-1/8″	7/8″ & 2-1/8″	7/8″ & 1-5/8″
38	1-1/8″ & DN80	1-1/8″ & DN65	1-1/8″ & 2-1/8″	1-1/8″ & 2-1/8″	1-1/8″ & 1-5/8″
40	1-1/8″ & DN80	1-1/8″ & DN80	1-1/8″ & 2-1/8″	1-1/8″ & 2-1/8″	1-1/8″ & 2-1/8″
50	1-1/8″ & DN100	1-1/8″ & DN80	1-1/8″ & DN65	1-1/8″ & 2-1/8″	1-1/8″ & 2-1/8″
60	1-3/8″ & DN100	1-3/8″ & DN100	1-3/8″ & DN65	1-3/8″ & DN65	1-3/8″ & 2-1/8″
70	1-3/8″ & DN100	1-3/8″ & DN100	1-3/8″ & DN65	1-3/8″ & DN65	1-3/8″ & DN65
80	1-3/8″ & DN125	1-3/8″ & DN100	1-3/8″ & DN80	1-3/8″ & DN65	1-3/8″ & DN65
90	1-5/8″ & DN125	1-5/8″ & DN100	1-3/8″ & DN80	1-3/8″ & DN80	1-3/8″ & DN65
100	1-5/8″ & DN125	1-5/8″ & DN125	1-5/8″ & DN80	1-5/8″ & DN80	1-5/8″ & DN65
110	1-5/8″ & DN125	1-5/8″ & DN125	1-5/8″ & DN100	1-5/8″ & DN80	1-5/8″ & DN80
120	1-5/8″ & DN150	1-5/8″ & DN125	1-5/8″ & DN100	1-5/8″ & DN100	1-5/8″ & DN80
130	DN65 & DN150	DN65 & DN125	1-5/8″ & DN100	1-5/8″ & DN100	1-5/8″ & DN80
140	DN65 & DN150	DN65 & DN125	DN65 & DN100	DN65 & DN100	DN65 & DN100
150	DN65 & DN150	DN65 & DN125	DN65 & DN100	DN65 & DN100	DN65 & DN100

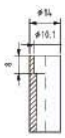
备注：液管需要校核过冷度以防止闪发，上升立管要校核流速以保证回油。

制冷量–库温–管径对照表
（R404A/R507A）

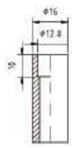
	管径				
库温	–25℃	–18℃	0℃	5℃	10℃
制冷量/KW	供液管&回气管	供液管&回气管	供液管&回气管	供液管&回气管	供液管&回气管
1	3/8″ & 5/8″	3/8″ & 1/2″	3/8″ & 3/8″	3/8″ & 3/8″	3/8″ & 3/8″
2	3/8″ & 7/8″	3/8″ & 5/8″	3/8″ & 1/2″	3/8″ & 1/2″	3/8″ & 3/8″
3	3/8″ & 1–1/8″	3/8″ & 7/8″	3/8″ & 5/8″	3/8″ & 5/8″	3/8″ & 1/2″
4	1/2″ & 1–1/8″	1/2″ & 1–1/8″	3/8″ & 5/8″	3/8″ & 5/8″	3/8″ & 5/8″
5	1/2″ & 1–2/8″	1/2″ & 1–1/8″	1/2″ & 7/8″	1/2″ & 7/8″	1/2″ & 5/8″
6	5/8″ & 1–3/8″	5/8″ & 1–1/8″	1/2″ & 7/8″	1/2″ & 7/8″	1/2″ & 7/8″
7	5/8″ & 1–3/8″	5/8″ & 1–3/8″	5/8″ & 7/8″	5/8″ & 7/8″	5/8″ & 7/8″
8	5/8″ & 1–5/8″	5/8″ & 1–3/8″	5/8″ & 1–1/8″	5/8″ & 7/8″	5/8″ & 7/8″
9	7/8″ & 1–5/8″	5/8″ & 1–3/8″	5/8″ & 1–1/8″	5/8″ & 1–1/8″	5/8″ & 7/8″
10	7/8″ & 1–5/8″	5/8″ & 1–5/8″	5/8″ & 1–1/8″	5/8″ & 1–1/8″	5/8″ & 7/8″
12	7/8″ & 2–1/8″	7/8″ & 1–5/8″	7/8″ & 1–1/8″	7/8″ & 1–1/8″	5/8″ & 1–1/8″
15	7/8″ & 2–1/8″	7/8″ & 2–1/8″	7/8″ & 1–3/8″	7/8″ & 1–3/8″	7/8″ & 1–1/8″
18	7/8″ & DN65	7/8″ & 2–1/8″	7/8″ & 1–3/8″	7/8″ & 1–3/8″	7/8″ & 1–3/8″
20	1–1/8″ & DN65	1–1/8″ & 2–1/8″	7/8″ & 1–5/8″	7/8″ & 1–3/8″	7/8″ & 1–3/8″
22	1–1/8″ & DN65	1–1/8″ & 2–1/8″	1–1/8″ & 1–5/8″	7/8″ & 1–3/8″	7/8″ & 1–3/8″
25	1–1/8″ & DN65	1–1/8″ & DN65	1–1/8″ & 1–5/8″	7/8″ & 1–5/8″	7/8″ & 1–3/8″
28	1–1/8″ & DN80	1–1/8″ & DN65	1–1/8″ & 2–1/8″	1–1/8″ & 1–5/8″	1–1/8″ & 1–5/8″
30	1–1/8″ & DN80	1–1/8″ & DN65	1–1/8″ & 2–1/8″	1–1/8″ & 1–5/8″	1–1/8″ & 1–5/8″
32	1–3/8″ & DN80	1–3/8″ & DN65	1–1/8″ & 2–1/8″	1–1/8″ & 1–5/8″	1–1/8″ & 1–5/8″
35	1–3/8″ & DN80	1–3/8″ & DN65	1–1/8″ & 2–1/8″	1–1/8″ & 2–1/8″	1–1/8″ & 1–5/8″
38	1–3/8″ & DN100	1–3/8″ & DN80	1–3/8″ & 2–1/8″	1–3/8″ & 2–1/8″	1–3/8″ & 1–5/8″
40	1–3/8″ & DN100	1–3/8″ & DN80	1–3/8″ & 2–1/8″	1–3/8″ & 2–1/8″	1–3/8″ & 2–1/8″
50	1–5/8″ & DN100	1–5/8″ & DN100	1–3/8″ & DN65	1–3/8″ & 2–1/8″	1–3/8″ & 2–1/8″
60	1–5/8″ & DN100	1–5/8″ & DN100	1–5/8″ & DN65	1–5/8″ & DN65	1–5/8″ & 2–1/8″
70	2–1/8″ & DN125	1–5/8″ & DN100	1–5/8″ & DN65	1–5/8″ & DN65	1–5/8″ & DN65
80	2–1/8″ & DN125	2–1/8″ & DN100	2–1/8″ & DN80	1–5/8″ & DN65	1–5/8″ & DN65
90	2–1/8″ & DN125	2–1/8″ & DN125	2–1/8″ & DN80	2–1/8″ & DN80	2–1/8″ & DN65
100	2–1/8″ & DN125	2–1/8″ & DN125	2–1/8″ & DN100	2–1/8″ & DN80	2–1/8″ & DN80
110	2–1/8″ & DN150	2–1/8″ & DN125	2–1/8″ & DN100	2–1/8″ & DN80	2–1/8″ & DN80
120	DN65 & DN150	DN65 & DN125	2–1/8″ & DN100	2–1/8″ & DN100	2–1/8″ & DN80
130	DN65 & DN150	DN65 & DN125	2–1/8″ & DN100	2–1/8″ & DN100	2–1/8″ & DN80

备注：液管需要校核过冷度以防止闪发，上升立管要校核流速以保证回油。

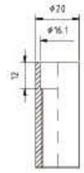
●材料：20# 碳钢；
●表面处理：镀镍；
● Material:20# carbon steel;
● Surface treatment:Nickel plating.



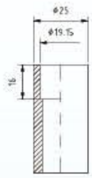
3/8" 铜管ODS钎焊
3/8" copper tube ODS braze welding



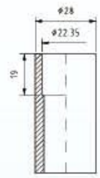
1/2" 铜管ODS钎焊
1/2" copper tube ODS braze welding



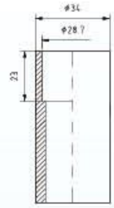
5/8" 铜管ODS钎焊
5/8" copper tube ODS braze welding



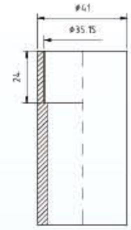
3/4" 铜管ODS钎焊
3/4" copper tube ODS braze welding



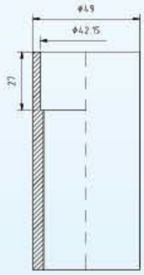
7/8" 铜管ODS钎焊
7/8" copper tube ODS braze welding



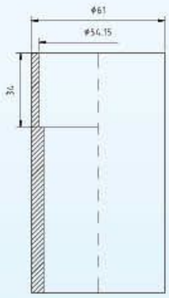
1-1/8" 铜管ODS钎焊
1-1/8" copper tube ODS braze welding



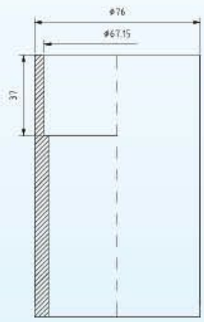
1-3/8" 铜管ODS钎焊
1-3/8" copper tube ODS braze welding



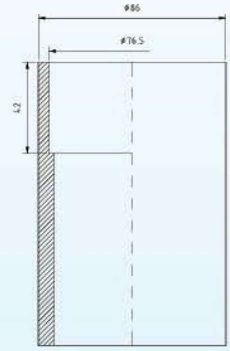
1-5/8" 铜管ODS钎焊
1-5/8" copper tube ODS braze welding



2-1/8" 铜管ODS钎焊
2-1/8" copper tube ODS braze welding

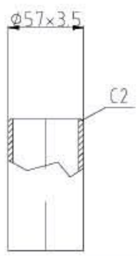


2-5/8" 铜管ODS钎焊
2-5/8" copper tube ODS braze welding

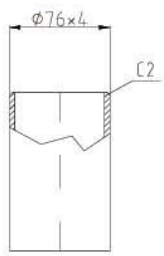


3-1/8" 铜管ODS钎焊
3-1/8" copper tube ODS braze welding

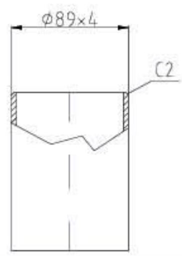
- ●材料：20# 碳钢；
- ●表面处理：镀镍；
- ● Material:20# carbon steel;
- ● Surface treatment:Nickel plating.



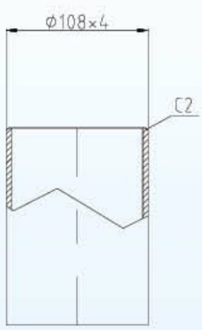
DN50 环向对接接头
DN50 Annalar butt joint



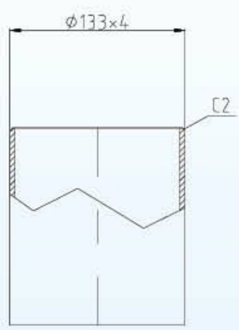
DN65 环向对接接头
DN65 Annalar butt joint



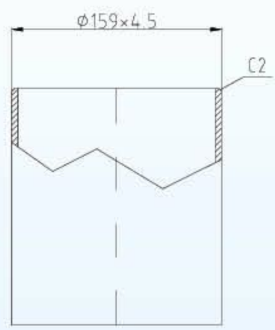
DN80 环向对接接头
DN80 Annalar butt joint



DN100 环向对接接头
DN100 Annalar butt joint



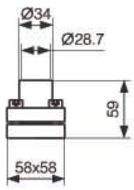
DN125 环向对接接头
DN125 Annalar butt joint



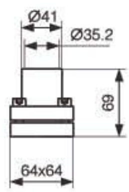
DN150 环向对接接头
DN150 Annalar butt joint

欧达法斯克（O&F)氟制冷压力容器专用法兰。 O&F appropriative flange for fluorine refrigeration pressure vessel.

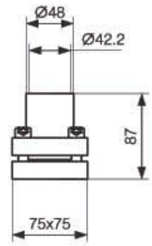
- 材料：20#碳钢； Material: 20# carbon steel;
- 标准配置：密封垫、整套螺栓。 Standard fitting: Hermetic gasket and whole bolt.



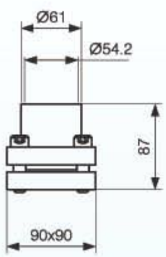
1-1/8"铜管ODS钎焊
1-1/8" copper tube ODS welding
Ø32 (DN25) 无缝钢管BW对焊
Ø32 (DN25) seamless steel BW



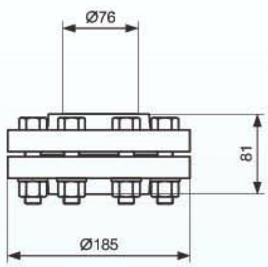
1-3/8"铜管ODS钎焊
1-3/8" copper tube ODS welding
Ø38 (DN32) 无缝钢管BW对焊
Ø38 (DN32) seamless steel BW



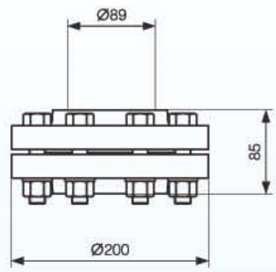
1-5/8"铜管ODS钎焊
1-5/8" copper tube ODS welding
Ø45 (DN40) 无缝钢管BW对焊
Ø45 (DN40) seamless steel BW



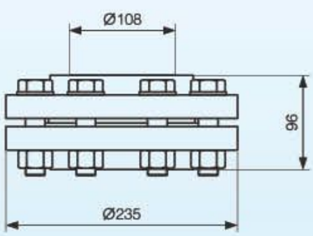
2-1/8"铜管ODS钎焊
2-1/8" copper tube ODS welding
Ø57 (DN50) 无缝钢管BW对焊
Ø57 (DN50) seamless steel BW



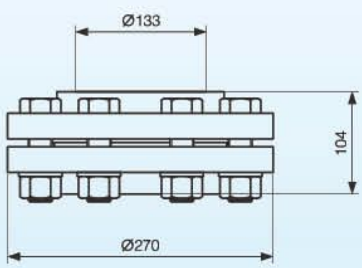
Ø76 (DN65) 无缝钢管BW平焊
Ø76 (DN65) seamless steel BW



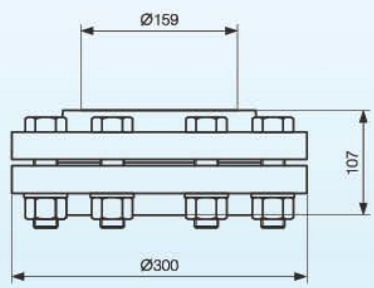
Ø89 (DN80) 无缝钢管BW平焊
Ø89(DN80) seamless steel BW



Ø108 (DN100) 无缝钢管BW平焊
Ø108(DN100) seamless steel BW



Ø133 (DN125) 无缝钢管BW平焊
Ø133(DN125) seamless steel BW



Ø159 (DN150) 无缝钢管BW平焊
Ø159(DN150) seamless steel BW

欧达●法斯克

天津市欧达法斯克制冷设备有限公司
Tianjin OUDAFASIKE Refrigeration Equipment Co.,Ltd

ADD：中国·天津市津南区双港镇慧科路8号　　P.S.: 300350
NO.8 Huike Road,Shuanggang Industrial Zone, Jinnan District, Tianjin, China
TEL：+86-22-28571146　　Http// : www.fasike.com
FAX：+86-22-28571149　　E-mail : fasike@fasike.com

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客户名称:

联　系　人:

联系方式:　　　　　　　　　　日　　期:

序号	项目	数值				
1	压缩机品牌					
2	压缩机型号					
3	压缩机类型	涡旋机	活塞机	螺杆机		
4	压缩机台数（并联机组）					
5	蒸发温度（℃）					
6	冷凝温度（℃）					
7	供液和蒸发形式	膨胀阀供液/干式蒸发	泵供液/满液式蒸发			
8	蒸发器形式	吊顶风机	蛇形钢排管	2翅铝排管		
9	冷凝器形式	风冷冷凝	水冷冷凝	蒸发冷冷凝		
10	涡旋（活塞）并联机组回油	高压回油	低压回油			
11	螺杆机油冷却方式	风冷式	水冷式	虹吸式		
12	螺杆机经济器	带经济器	不带经济器			
13	制冷剂类型	R134a	R22	R407C	R404A	R507A
14	系统制冷剂充注量（kg）					
15	设备运行地点（省/市）					

其它描述:

我们提供的选型方案仅供参考。

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With the best of our ability to prouide what you need

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天津市欧达法斯克制冷设备有限公司
地址：天津市津南区双港镇慧科路8号
邮政编码：300350
联系电话：+86-22-28571143 28571145 28571146
传真电话：+86-22-28571149
http: www.fasike.com
E-mail: fasike@ fasike.com

Tianjin OUDAFASIKE Refrigeration Equipment Co.,Ltd
Address: No.8 Huike Road Shuanggang Town, Jinnan District, Tianjin,China
P.S.: 300350
TEL: +86-22-28571143 28571145 28571146
FAX: +86-22-28571149
http：www.fasike.com
E-mail: fasike@ fasike.com