



天津市法斯克制冷设备有限公司  
Tianjin FaSiKe Refrigeration Equipment Co., Ltd



2017年版  
Product Guide 2017

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## 天津市法斯克制冷设备有限公司

天津市法斯克制冷设备有限公司始建于1994年，厂房面积20000m<sup>2</sup>，120名员工，数控切割设备6台，全自动焊接设备40台，试验及测试设备10台，机械加工设备29台。建有力学性能试验室、化学试验室及无损检测实验室，公司有工程技术人员16名，特种设备制造、无损检测持证人员20名。

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。

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

Tianjin Fasike Refrigeration Equipment Co.,Ltd is founded in 1994, covers an area of factory plant with around 20000 square meters, has 120 employees. The factory has CNC cutting equipment by 6sets, Fully automatic welding equipment by 40sets, Test and measure equipment by 10sets, Mechanical processing equipment by 29sets. Factory builds Mechanical performance test laboratory, Chemistry laboratory and Nondestructive testing laboratory. There are 16 engineers and technicians, and 20 NDT certified persons.

The company has TUV ISO9001 quality control system certificate, Design license of special equipment, Manufacture license of special equipment, Manufacture license of safety valve.

The products include: Oil separator, Accumulator, Cooling&Heating Exchanger, Liquid Receiver, Liquid Level Control System, Oil Level Control System, Safety valve, Capillary Hose for Refrigeration and so on.



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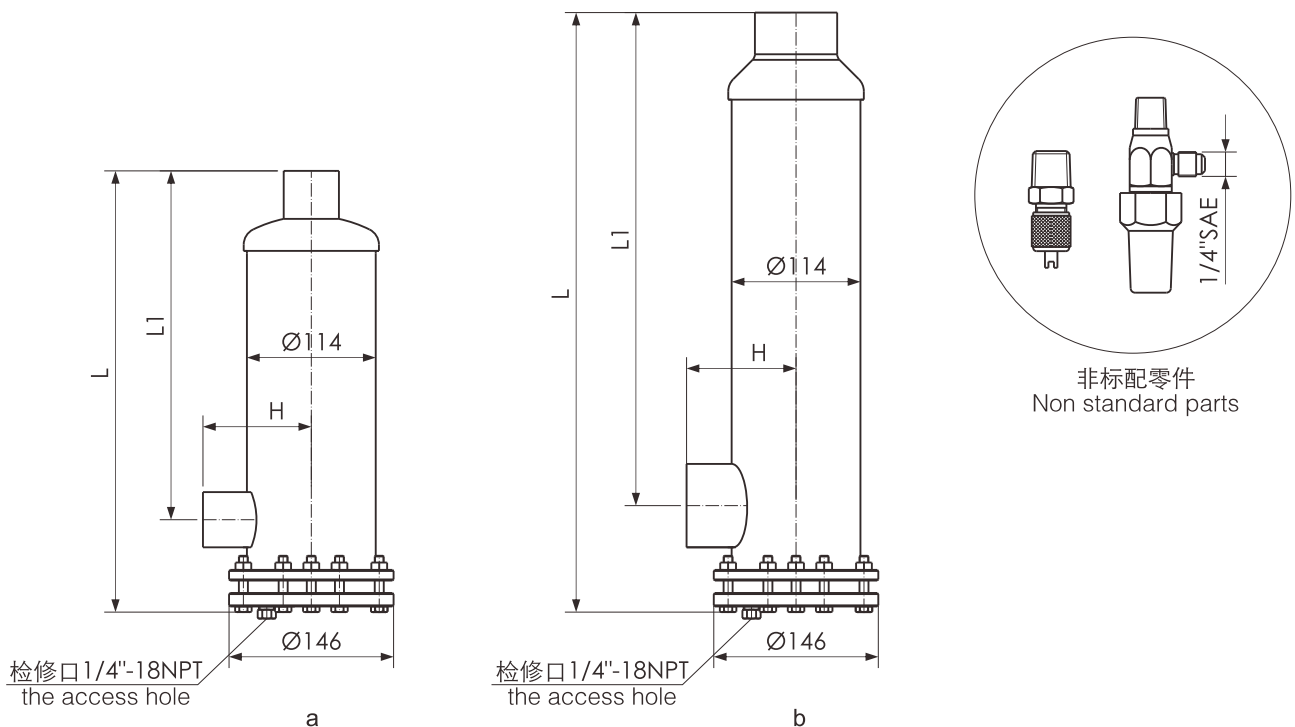
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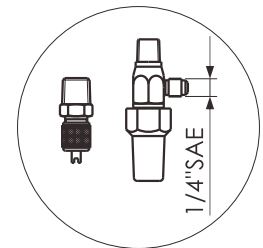
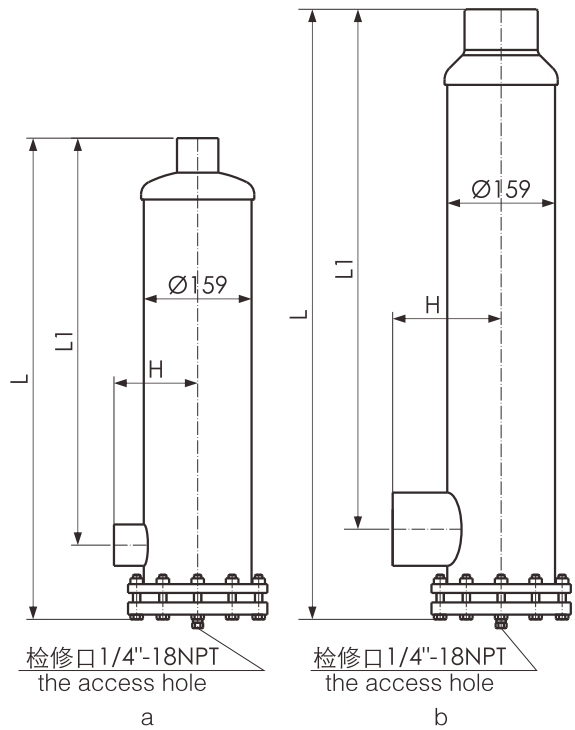
- 进出口设计为坚固的碳钢接口；
- 过滤器标准配制2个金属过滤网；
- 作为供液管过滤器使用时，安装FJ-48A固体干燥滤芯可以过滤系统内杂质、吸收水分和酸性物质；
- 作为吸气管过滤器使用时，为了减少压力降，建议拆掉2个金属过滤网。使用FRE-48纤维百褶滤芯或FRE-48W不锈钢滤芯，可有效的过滤掉系统内的杂质，避免脏物进入压缩机延长压缩机的使用寿命；
- 通过高精度的法兰、组装式滤芯架和安装弹簧使更换滤芯变得非常容易；
- 壳体内壁镀镍，可有效的防止遇到水分时生锈；
- 装有测量压力降和充注用的检修口；
- 设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。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



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"	-----	221	153	76	1.6	a
FE-487	1	7/8"	Ø25 × 2.5	231	159	86	1.6	a
FE-489	1	1-1/8"	Ø32 × 3.0	230	156	85	1.6	a
FE-4811	1	1-3/8"	Ø38 × 3.0	240	162	96	1.6	a
FE-4813	1	1-5/8"	Ø45 × 3.0	239	157	96	1.6	a
FE-4817	1	2-1/8"	Ø57 × 3.5	249	161	97	1.6	b
FE-4821	1	2-5/8"	Ø76 × 4.0	246	151	97	1.6	b
FE-4825	1	3"	Ø89 × 4.0	246	145	96	1.6	b
FE-967	2	7/8"	Ø25 × 2.5	374	302	86	2.9	a
FE-969	2	1-1/8"	Ø32 × 3.0	373	299	85	2.9	a
FE-9611	2	1-3/8"	Ø38 × 3.0	383	305	96	2.9	a
FE-9613	2	1-5/8"	Ø45 × 3.0	382	300	96	2.9	a
FE-9617	2	2-1/8"	Ø57 × 3.5	392	304	97	2.9	b
FE-9621	2	2-5/8"	Ø76 × 4.0	389	294	97	2.9	b
FE-9625	2	3"	Ø89 × 4.0	389	289	96	2.9	b
FE-1449	3	1-1/8"	Ø32 × 3.0	517	442	85	4.2	a
FE-14411	3	1-3/8"	Ø38 × 3.0	526	448	96	4.2	a
FE-14413	3	1-5/8"	Ø45 × 3.0	525	443	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	532	438	97	4.2	b
FE-14425	3	3"	Ø89 × 4.0	533	432	96	4.2	b
FE-19211	4	1-3/8"	Ø38 × 3.0	669	591	96	5.5	a
FE-19213	4	1-5/8"	Ø45 × 3.0	669	587	96	5.5	a
FE-19217	4	2-1/8"	Ø57 × 3.5	679	591	97	5.5	b
FE-19221	4	2-5/8"	Ø76 × 4.0	675	581	97	5.5	b
FE-19225	4	3"	Ø89 × 4.0	676	575	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；
- 壳体内壁镀镍，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：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

- 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;
- The internal shell body wall is dealt with nickel plating to prevent the rust against the water.
- 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.

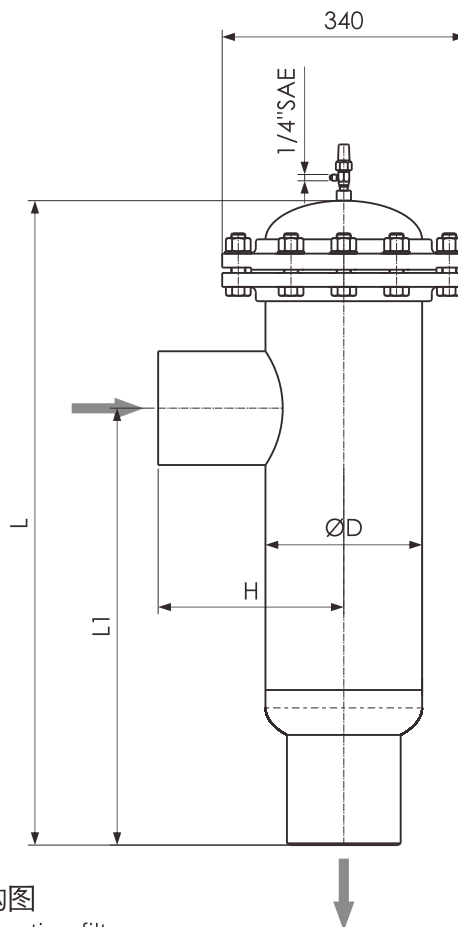


非标配零件  
Non standard parts

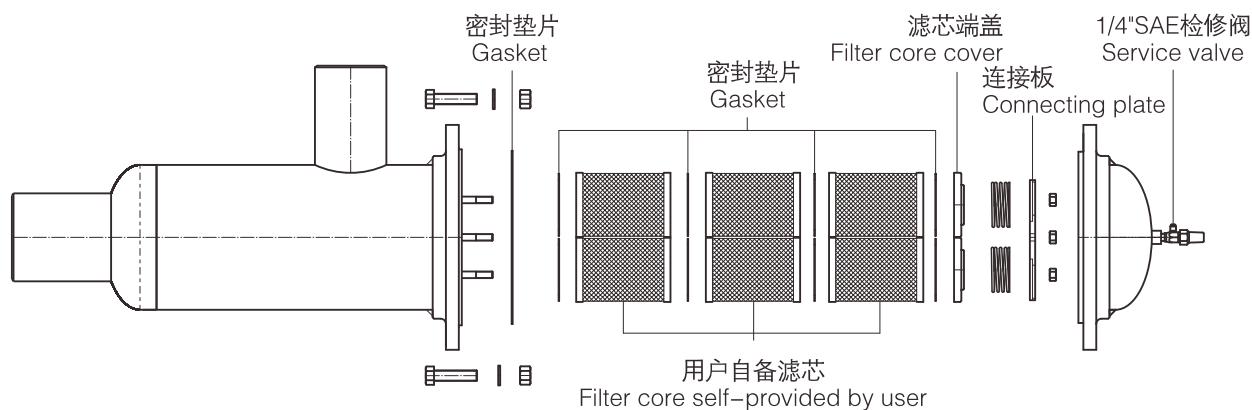
型号 Model	芯数 (个) Core-Quantity (Piece)	ODS接口铜管 (inch)	对焊接口钢管 (mm)	L (mm)	L1 (mm)	H (mm)	容积 (l) Volume (l)	图例 Fig.
FEM-10021	1	2-5/8"	Ø76 × 4.0	374	257	125	5.0	a
FEM-10025	1	3"	Ø89 × 4.0	387	265	127	5.0	b
FEM-10034	1	3-7/8"	Ø108 × 4.0	393	260	160	5.0	b
FEM-20017	2	2-1/8"	Ø57 × 3.5	541	431	124	8.0	a
FEM-20021	2	2-5/8"	Ø76 × 4.0	543	426	125	8.0	a
FEM-20025	2	3"	Ø89 × 4.0	556	434	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	702	598	119	11.0	a
FEM-30017	3	2-1/8"	Ø57 × 3.5	710	600	124	11.0	a
FEM-40013	4	1-5/8"	Ø45 × 3.0	871	767	119	14.0	a
FEM-40017	4	2-1/8"	Ø57 × 3.5	879	769	124	14.0	a
FEM-40021	4	2-5/8"	Ø76 × 4.0	881	764	125	14.0	a
FEM-40025	4	3"	Ø89 × 4.0	894	772	127	14.0	b
FEM-40034	4	---	Ø108 × 4.0	900	767	160	14.0	b

- 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杂质；
- 过滤器内安装了多组滤芯，具有强大的过滤功能，和非常小的压力降；
- 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；
- 滤芯可以使用FRE-48W或FRE-48系列过滤器；
- 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；
- 安装方式：法兰向上垂直安装；
- 设计压力：1.7 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

- It will be specially installed in the suction line of the large refrigeration equipment, and it can filter out the dirt in the system effectively;
- There are many teams of filter cores assembled inside of the filter, so it has formidable filtration function and also has little pressure drop;
- The inlet and outlet connection are made by the stable seamless steel pipe;
- It is very easy to replace the filter core according to the high accuracy flange, modular filter core shelf and installed spring;
- You can use the filter core FRE-48W or FRE-48;
- The zinc plating on the internal surface of the shell body will prevent the rust against the water;
- There is an access hole for measuring the pressure drop and charging-in function;
- Installation method: Vertical installation and flange upward;
- The design pressure: 1.7MPa;
- Applicative refrigerants: 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% Molecular Sieve

应用范围 Application: R22, R32, R134a, R404a, 407C, etc

性质 Character:

- 超强吸水能力 Super water capacity
- 与制冷剂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-48A/FJ-100A**

主要成分 Content: 80%分子筛+20% Al<sub>2</sub>O<sub>3</sub>

80% Molecular Sieve+20% Al<sub>2</sub>O<sub>3</sub>

应用范围 Application: R22、R32、R134a、R404a、R207、R124、R125、  
R143a、R152a、R128、R23, etc

性质 Character:

- 强吸水能力 High water capacity
- 与制冷剂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% Al<sub>2</sub>O<sub>3</sub>+5%C

48% Molecular Sieve+47% Al<sub>2</sub>O<sub>3</sub>+5%C

应用范围 Application: R22、R32、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

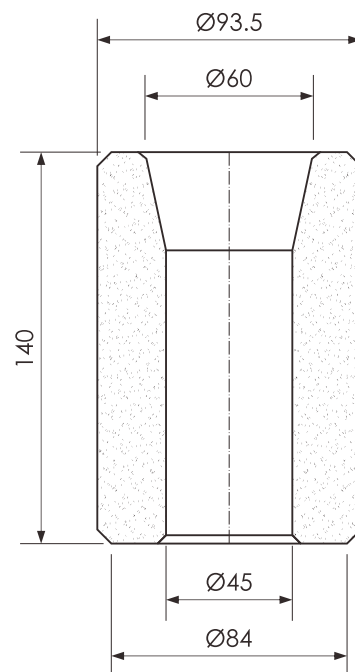
**FJ-48D/FJ-100D**

主要成分 Content: 100% Al<sub>2</sub>O<sub>3</sub>

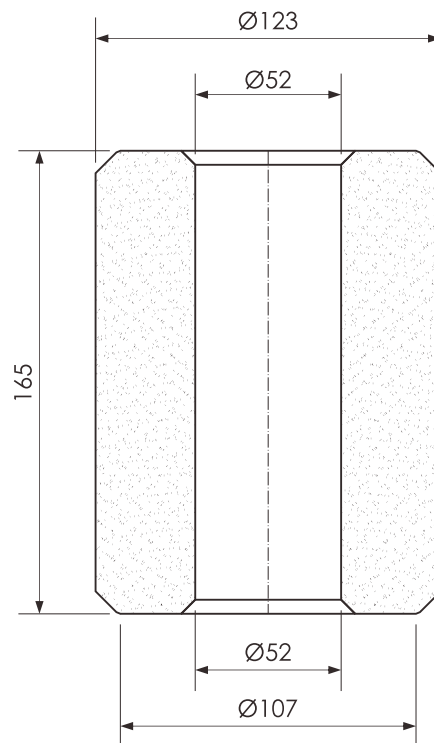
应用范围 Application: R22、R32, etc

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



FJ-48



FJ-100

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。

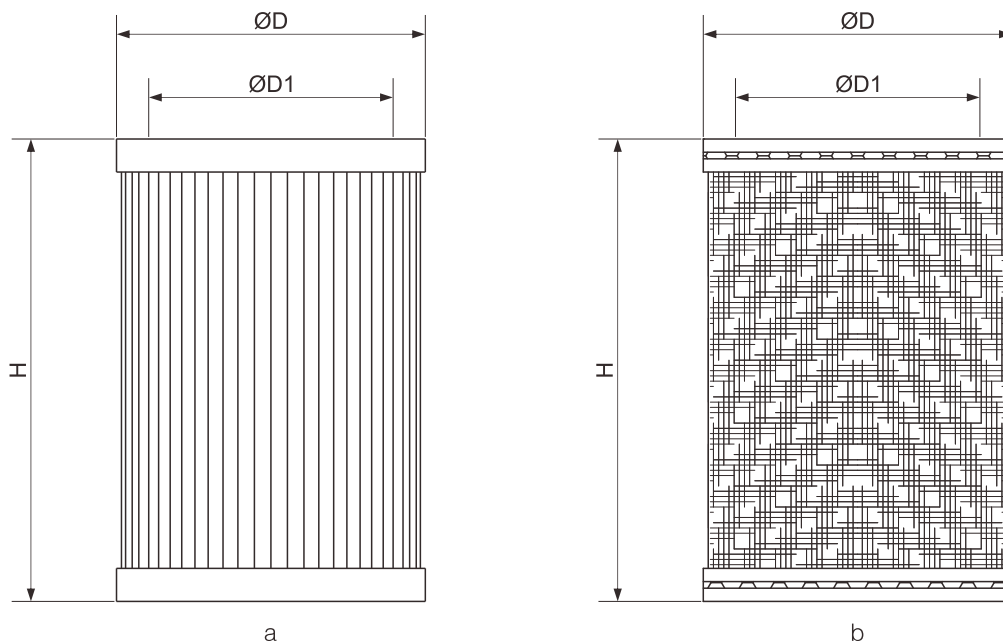
所以我们向客户推荐在吸气管路进入压缩机前安装吸气过滤器，同时选择一个合适的滤芯，在新系统运行开始请选择百褶滤芯，当确认大部分脏物被清理掉以后请更换不锈钢滤芯，因为不锈钢滤芯具有更小的压力降。

- 温度应用范围：-50℃ ~ +100℃；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

During the refrigeration system in the installing process, it is unavoidable to enter the dirt. If it is not cleaned in time while the system is operating, it would have made deathful damage to the whole system, especially to compressor.

We recommend the customers to install the filter for suction line before the suction line entering into the compressor, and select a suitable filter core. At the beginning of running the new system, please select the core of balayouse type. After confirming the most dirt have already been cleaned up, please replace the stainless steel filter core because the stainless steel filter core has the less pressure drop.

- Applicative temperature range: -50℃ ~ +100℃;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



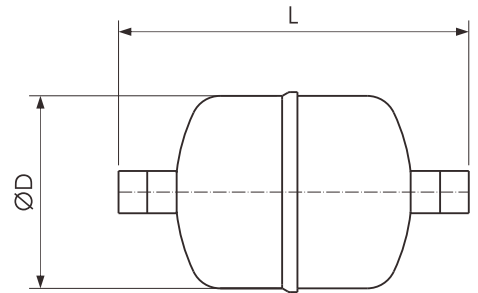
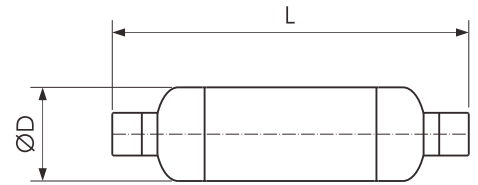
型号 Model	过滤材料 Filter Material	ØD (mm)	ØD1 (mm)	H (mm)	温度范围 (°C) Temperature Range (°C)	过滤精度 (µm) Filter Accuracy (µm)	图例 Fig.
FRE-48	纤维百褶滤芯 fibrous balayouse filter core	94	70	140	-50℃ ~ +100℃	20	a
FRE-48W	不锈钢滤芯 stainless steel filter core	94	74	140	-50℃ ~ +150℃	250	b
FRE-100	纤维百褶滤芯 fibrous balayouse filter core	120	90	166	-50℃ ~ +100℃	20	a
FRE-100W	不锈钢滤芯 stainless steel filter core	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.

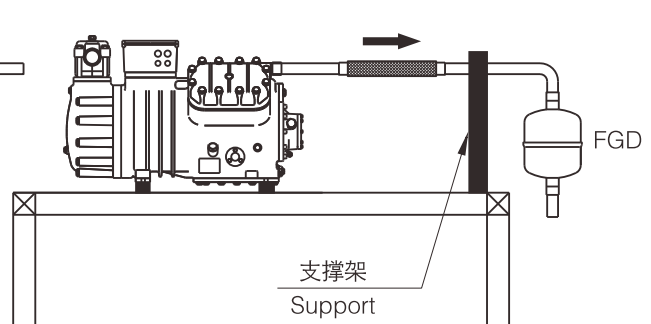
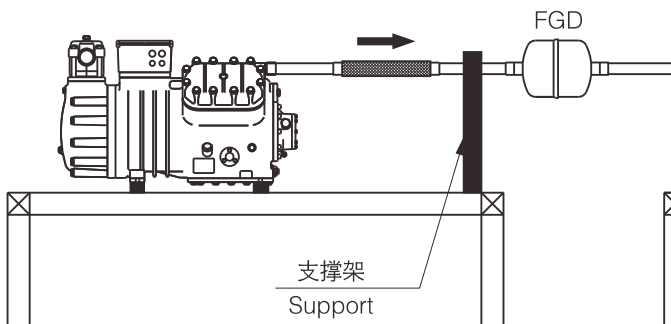


a

b

水平安装  
horizontal installation

垂直安装  
vertical installation



支撑架  
Support

支撑架  
Support

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	127	490	3.9	b

## 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。

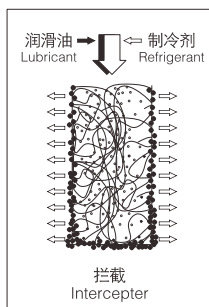
## Model Selection of Oil Separator Presentation

- 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 environment 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 separator 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°C
- High temperature range (H) – Evaporating temperature ( $t_0$ ) +5°C
- 中温范围 (M) – 蒸发温度 ( $t_0$ ) –10°C
- Medium temperature range (M) – Evaporating temperature ( $t_0$ ) –10°C
- 低温范围 (L) – 蒸发温度 ( $t_0$ ) –25°C
- Low temperature range (L) – Evaporating temperature ( $t_0$ ) –25°C
- 速冻范围 (Z) – 蒸发温度 ( $t_0$ ) –40°C
- Quick-frozen range (Z) – Evaporating temperature ( $t_0$ ) –40°C

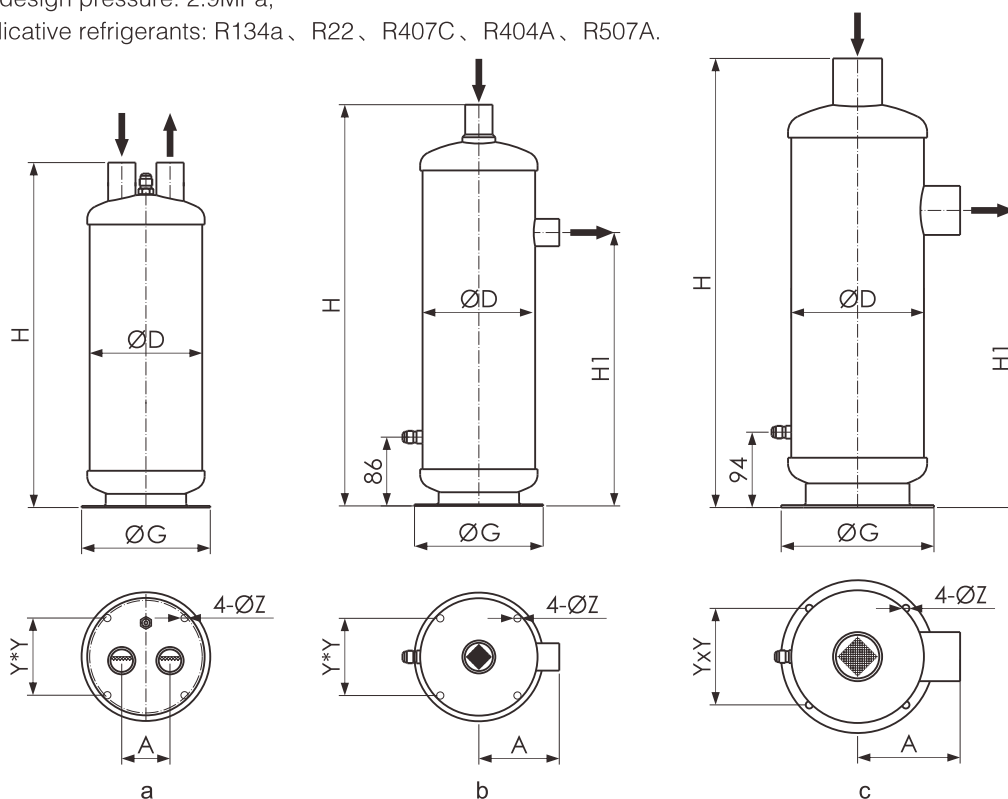


从压缩机输出的带有悬浮油颗粒的气态制冷剂进入到油分离器中，气态制冷剂携带的油经过进口金属丝网和带有隔板的出口金属网网的拦截，油颗粒之间相互撞击并形成较重的油颗粒，这些较重的油颗粒最终撞击在油分离器的内壁上，此处具有最终分离作用。被分离出来的油滴落到油分离器的底部，并通过此处安装的浮球式针阀将油返回到曲轴箱或储油器中。

- 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 the outlet metal web and then the shell wall of the oil separator. The oil particle collide with one another and form heavier oil particles. The heavier oil particles drops finally hit on the wall of the oil separator, and here have the final separation effect. Be isolated droplets to the bottom of the oil separator where a float operated needle valve returns the oil back to the crankcase or oil reservoir.

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

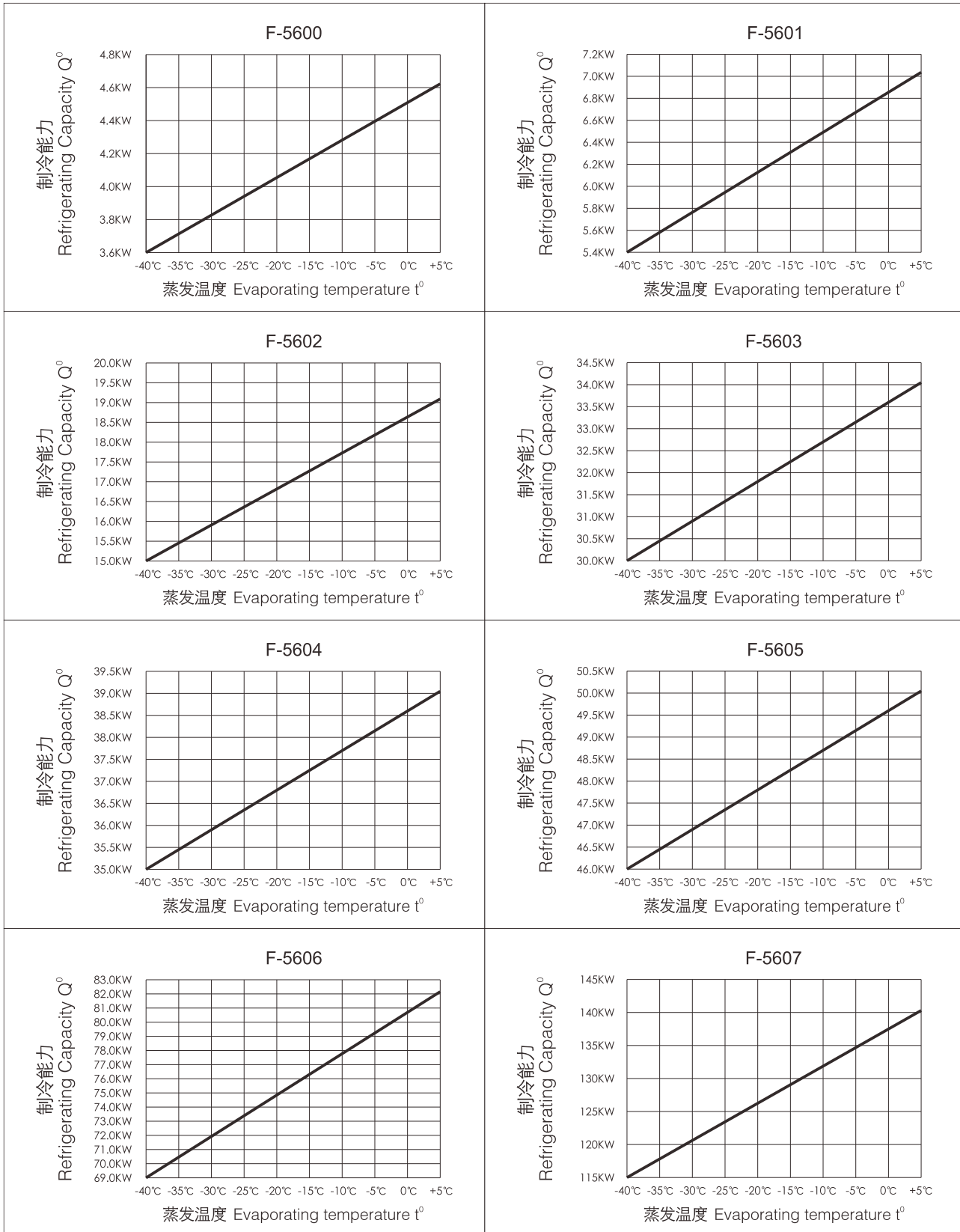


型号 Model	接口尺寸 Joint Size (Inch)	ØD (mm)	H (mm)	H1 (mm)	A (mm)	Y (mm)	ØG (mm)	ØZ (mm)	油出口 Oil Outlet (SAE)	初始注油量 First Oil Charge (l)	容积 Volume (l)	图例 Fig.
F-5600	3/8"	102	273	-	48	86	140	8.5	1/4"	0.5	1.6	a
F-5601	1/2"	102	273	-	48	86	140	8.5	1/4"	0.5	1.6	a
F-5602	5/8"	102	343	-	48	86	140	8.5	1/4"	0.5	2.1	a
F-5603	7/8"	140	424	293	100	96	160	9.0	3/8"	0.9	5.0	b
F-5604	1-1/8"	140	499	336	100	96	160	9.0	3/8"	0.9	6.0	b
F-5605	1-3/8"	140	499	336	103	96	160	9.0	3/8"	0.9	6.0	b
F-5606	1-5/8"	165	558	376	130	120	190	9.0	3/8"	1.2	8.0	c
F-5607	2-1/8"	165	558	370	128	120	190	9.0	3/8"	1.2	9.0	c

- ★ 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.

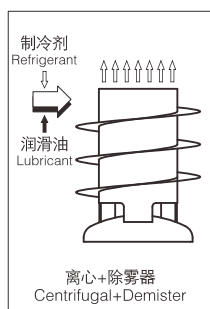
# F-56系列油分离器制冷能力表

# F-56 Series Oil Separator Refrigerating Capacity Table



上述数据基于R22/R407C/R404A, 冷凝温度+40°C, 使用R134a ( R22数值 × 0.65 )

Based on the above date: R22/R407C/R404A,condensing temperature+40° c,used R134a(R22 datex0.65)



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。

离心+除雾器  
Centrifugal+Demister

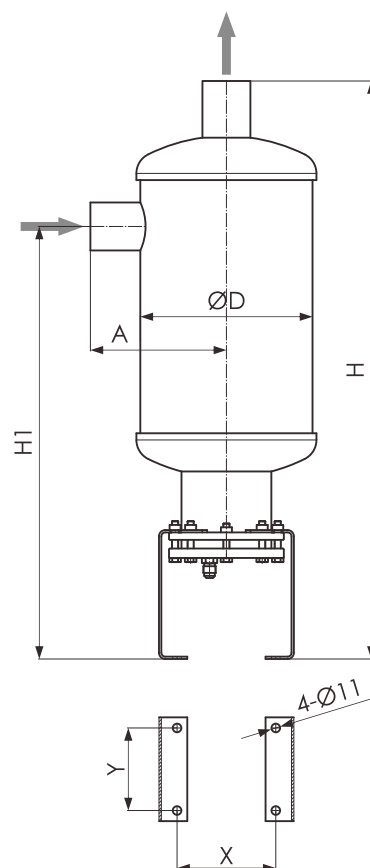
- 设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

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 with which can adsorb the scrap iron entered into the oil separator.

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

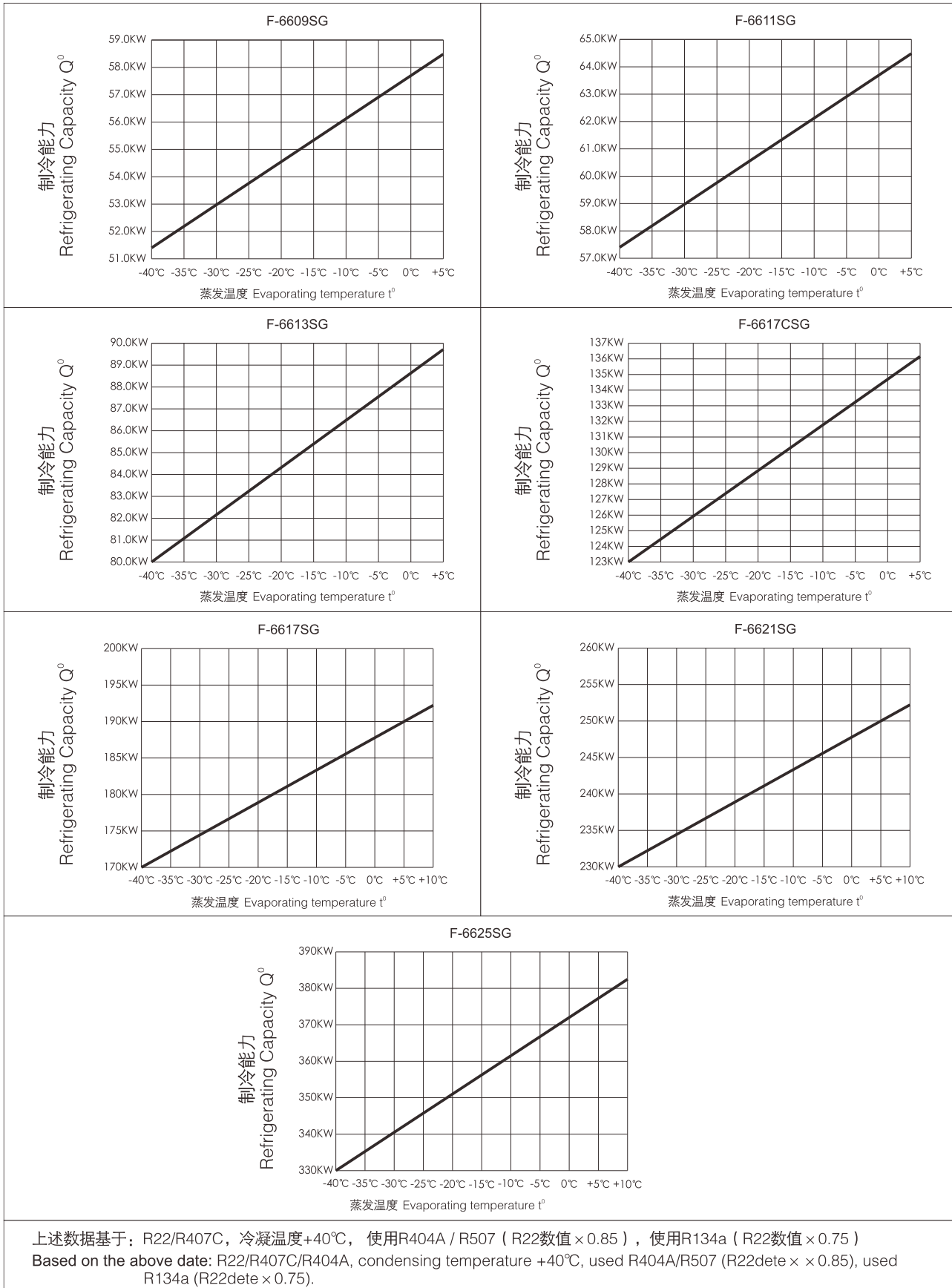


型号 Model	接口尺寸 Joint Size (Inch)	ØD (mm)	H (mm)	H1 (mm)	A (mm)	X (mm)	Y (mm)	油出口 Oil Outlet (SAE)	初始注油量 First Oil Charge (l)	容积 Volume (l)
F-6609SG	1-1/8"	165	611	471	123	126	105	3/8"	0.5	6.0
F-6611SG	1-3/8"	165	641	492	128	126	105	3/8"	0.5	6.5
F-6613SG	1-5/8"	165	673	515	138	126	105	3/8"	0.5	7.0
F-6617CSG	2-1/8"	165	723	549	145	126	105	3/8"	0.5	7.9
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

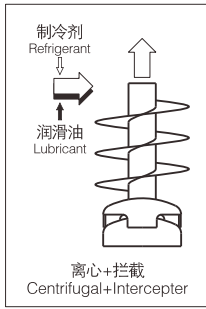
- ★ 油分离器第一次安装时，需要向油分离器内充注与压缩机相同牌号的润滑油，充注量参照上面表格中给出的“初始注油量”。
- ★ When you use the oil separator for the first time, please fill the lubricating oil with the same trademark as it is in the compressor into the oil separator, and the oil charging volume please take the numbers marked in the above form as your reference.

# F-66SG 系列油分离器制冷能力表

# F-66SG Series Oil Separator Refrigerating Capacity Table







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。

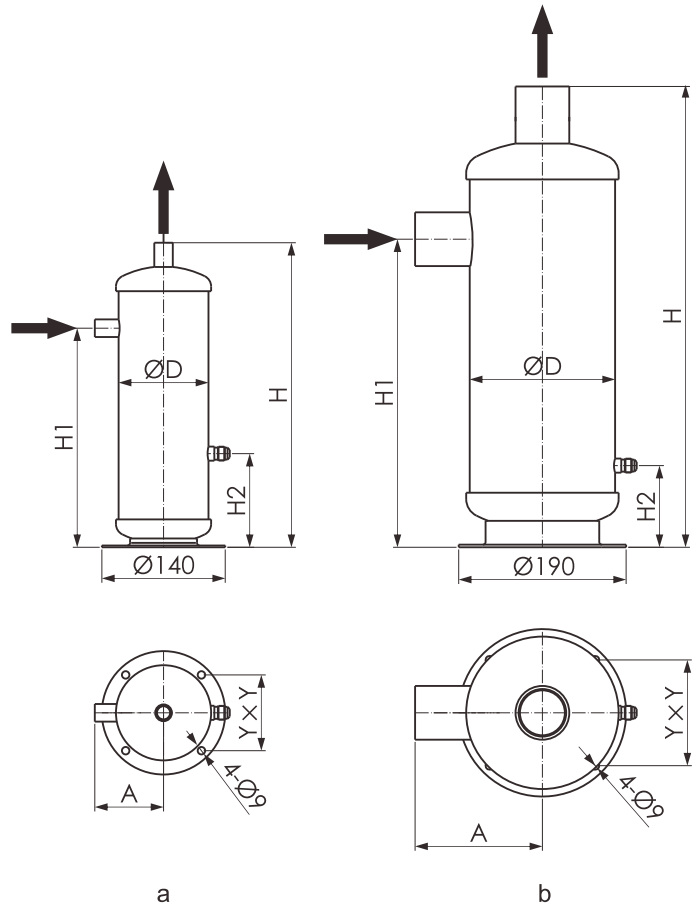
从压缩机输出的带有悬浮油颗粒的气态制冷剂进入到油分离器中，带有悬浮油颗粒的气态制冷剂与螺旋式导流板相接触，并且沿导流板旋转流动。油颗粒在离心力的作用下，被分离到螺旋式导流板的边缘处和油分离器的桶壁上，在这里被分离出来的油颗粒聚集成较大的油滴流入油分离器底部的油收集区。我们在螺旋式导流板的下部设计了一个碟状导流罩，它可有效的防止被分离出来的油滴再次飞散。导流罩下面又设计了一个碟状反射屏，反射屏的独特设计使得油收集区域被独立分隔出来，它可以防止油分离器内流速过高时油收集区域内的油被带走。

- 最大许可运行压力：2.9MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

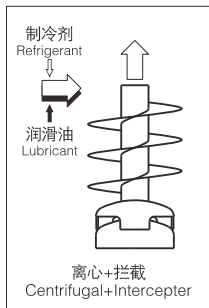
F-66 Series Helical Oil Separator features a centrifugal flow path achieving very perfect separation effect with lowest pressure drop.

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 max. acceptable running 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"	102	409	290	106	91	86	3/8"	0.5	2.5	a
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。

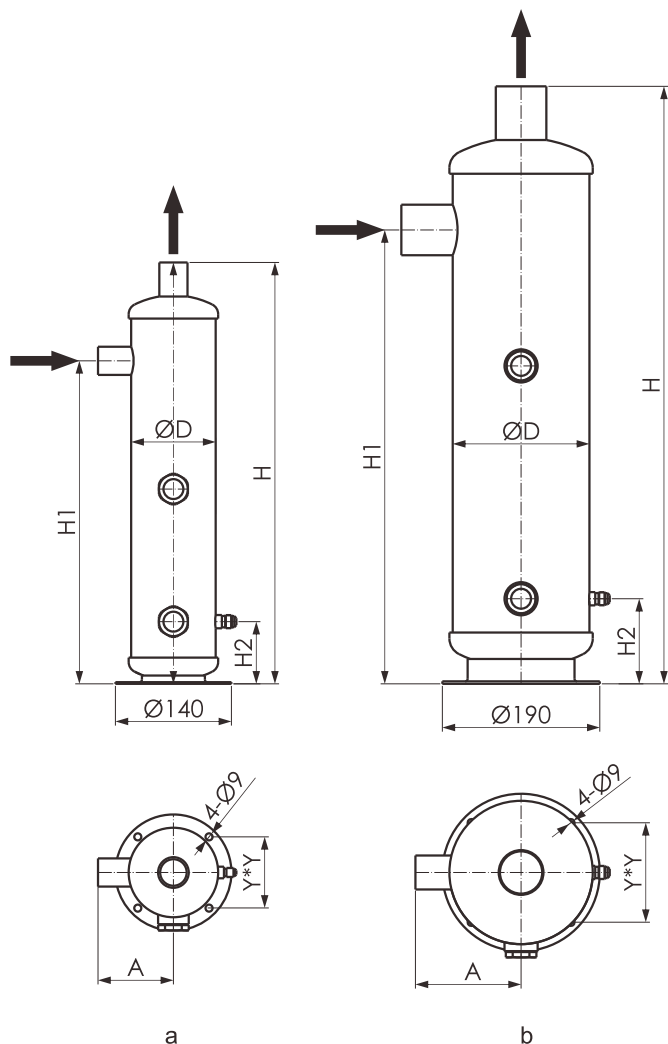
依靠油分离器和压缩机曲轴箱之间的压力差，通过电子油位控制器将润滑油直接输送到每一台压缩机曲轴箱。

- 最大许可运行压力：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.

- The max. acceptable running 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)	油容积 Oil Volume (l)	总容积 Total Volume (l)	图例 Fig.
F-6604Q	1/2"	102	496	403	74	75	86	3/8"	2.0	3.3	a
F-6605Q	5/8"	102	496	403	74	78	86	3/8"	2.0	3.3	a
F-6607Q	7/8"	102	550	441	74	81	86	3/8"	2.0	3.6	a
F-6609Q	1-1/8"	102	560	441	74	91	86	3/8"	2.0	3.6	a
F-6611Q	1-3/8"	165	689	542	103	128	120	3/8"	7.0	19.8	b
F-6613Q	1-5/8"	165	699	542	103	138	120	3/8"	7.0	19.8	b
F-6617Q	2-1/8"	165	765	592	103	145	120	3/8"	7.0	21.0	b

# F-66 & F-66Q 制冷能力表

## F-66 & F-66Q Series Oil Separator Refrigerating Capacity Table



<p style="text-align: center;">F-6604 &amp; F-6604Q</p> <p style="text-align: center;">蒸发温度 Evaporating temperature t<sup>0</sup></p>	<p style="text-align: center;">F-6605 &amp; F-6605Q</p> <p style="text-align: center;">蒸发温度 Evaporating temperature t<sup>0</sup></p>
<p style="text-align: center;">F-6607 &amp; F-6607Q</p> <p style="text-align: center;">蒸发温度 Evaporating temperature t<sup>0</sup></p>	<p style="text-align: center;">F-6609 &amp; F-6609Q</p> <p style="text-align: center;">蒸发温度 Evaporating temperature t<sup>0</sup></p>
<p style="text-align: center;">F-6611 &amp; F-6611Q</p> <p style="text-align: center;">蒸发温度 Evaporating temperature t<sup>0</sup></p>	<p style="text-align: center;">F-6613 &amp; F-6613Q</p> <p style="text-align: center;">蒸发温度 Evaporating temperature t<sup>0</sup></p>
<p style="text-align: center;">F-6617 &amp; F-6617Q</p> <p style="text-align: center;">蒸发温度 Evaporating temperature t<sup>0</sup></p>	
<p>上述数据基于: R22/R407C, 冷凝温度+40°C, 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°C, used R404A/R507 (R22dete × ×0.85), used R134a (R22dete × 0.75).</p>	

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。

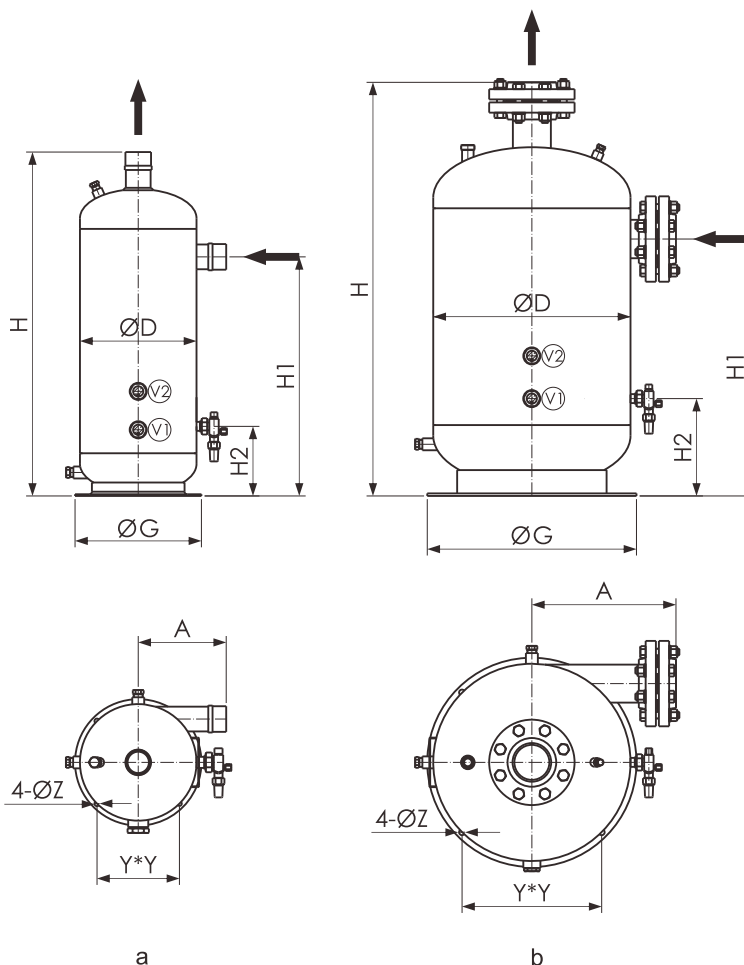
- 设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

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.

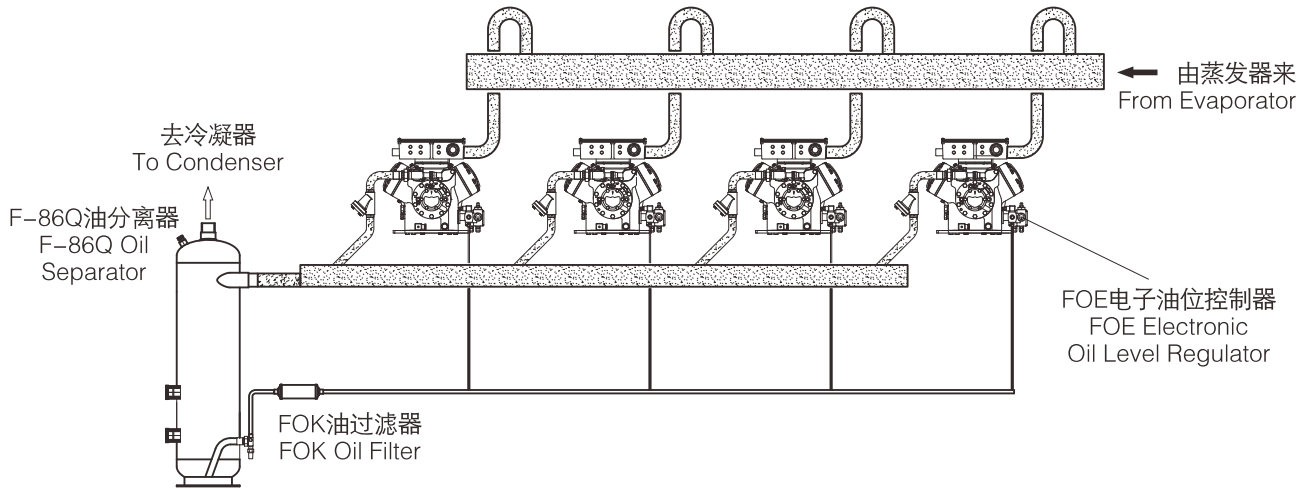
There is an oil-stored area at the bottom of the oil separator. And at this oil-stored area, there are a high-level oil sight glass and a low-level oil sight glass. The standard oil level shall be lower than 1/2 position of the high-level oil sight glass and higher than 1/2 position of the low-level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

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



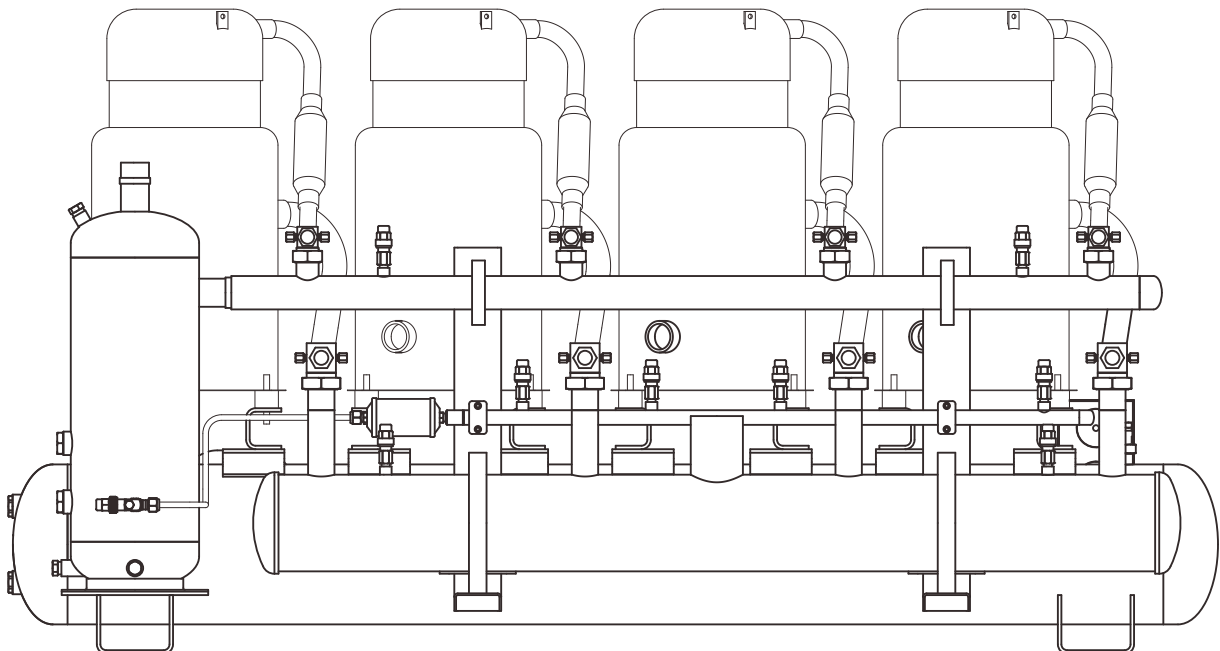
型号 Model	接口尺寸 Joint Size (Inch)	ØD (mm)	H (mm)	H1 (mm)	H2 (mm)	A (mm)	Y (mm)	G (mm)	ØZ (mm)	出油口 Oil Outlet (Inch)	V1 油容积 Oil Volume (l)	总容积 Total Volume (l)	图例 Fig.
F-8613Q	1-5/8"	219	732	510	148	191	155	250	12	3/8"	4.3	20	a
F-8617Q	2-1/8"	273	805	560	163	206	193	296	12	3/8"	6.4	36	a
F-8621Q	2-5/8"	325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

活塞并联机组  
Piston parallel unit



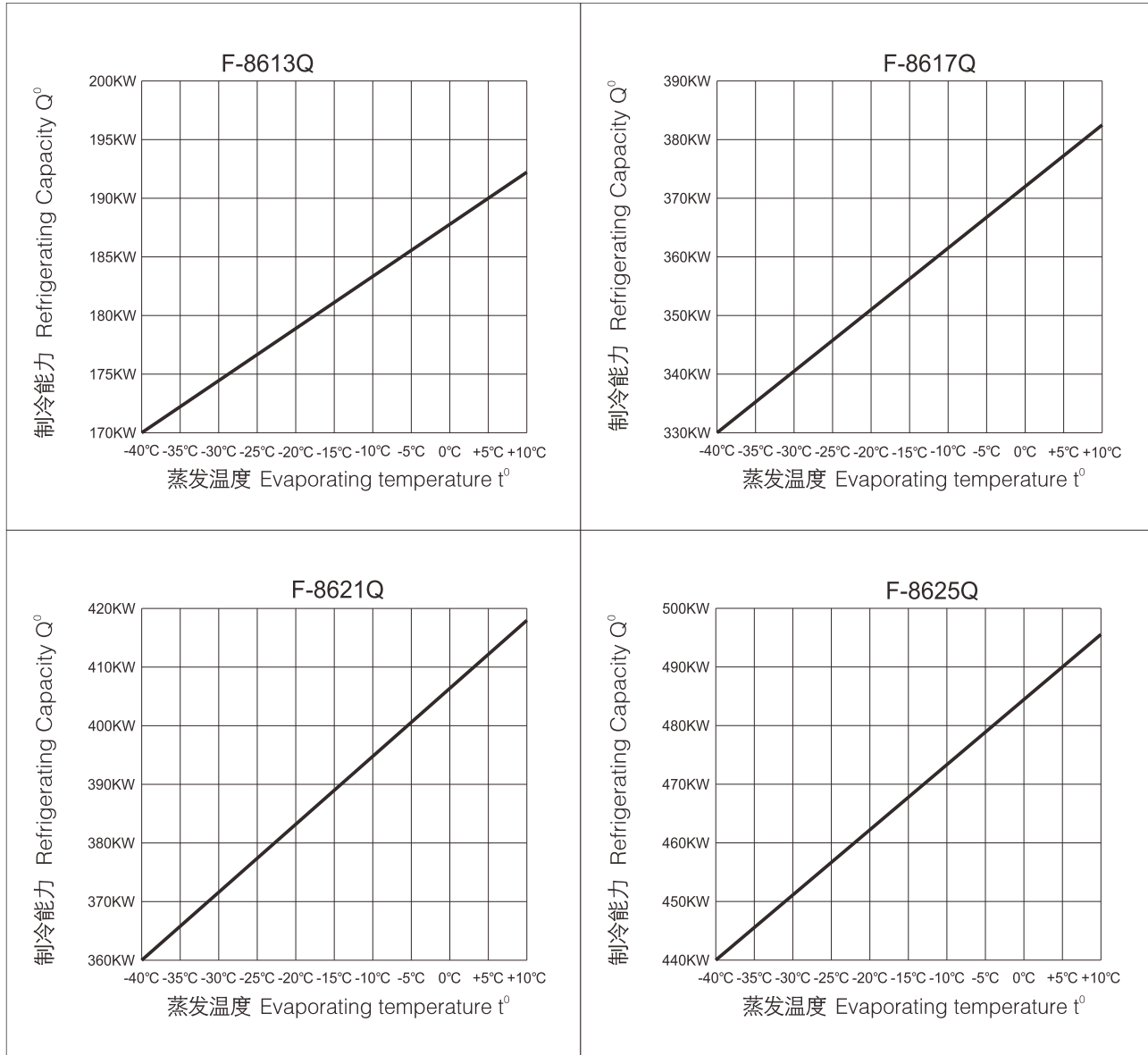
新设计的系统多以排气压力回油  
Oil control feeds at discharge pressure in new system

涡旋并联机组  
Scroll parallel unit



当F-86Q用于活塞/涡旋并联压缩机组时，请参考以下数据

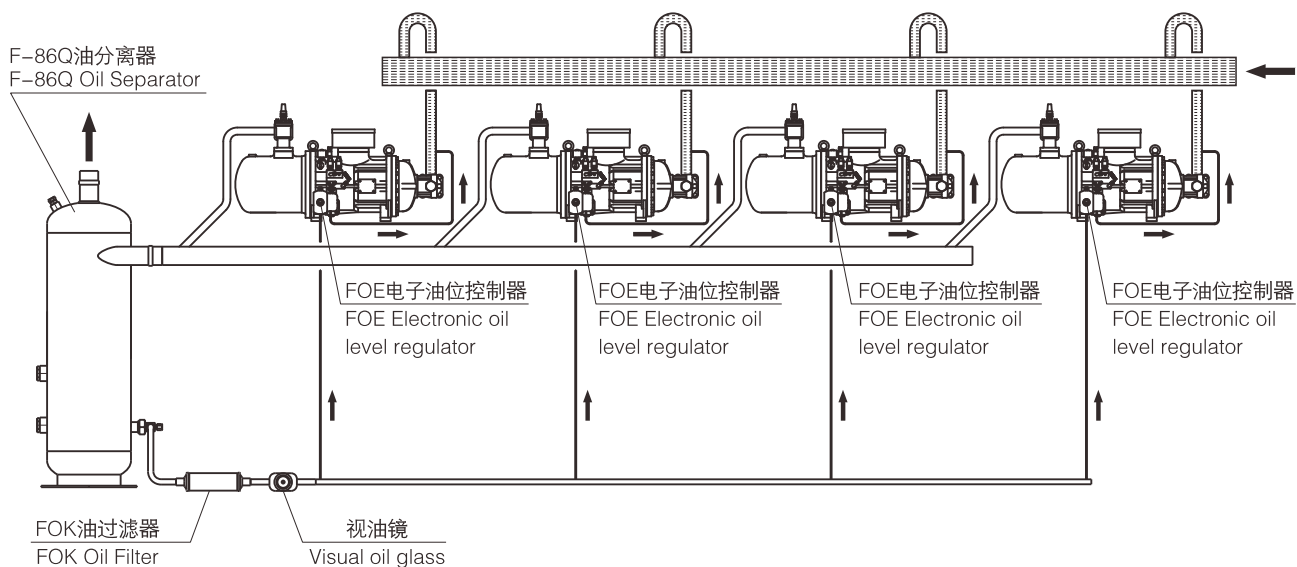
When you use F-86Q in piston/scroll parallel unit, please take the below data as your reference.



上述数据基于：R22/R407C，冷凝温度+40°C，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°C, used R404A/R507 (R22dete × ×0.85), used R134a (R22dete × 0.75).

带内置油分螺杆并联压缩机组

Screw compressor with inside oil separator parallel unit



当F-86Q用于带内置油分螺杆并联压缩机组时，请参考以下数据

When you use F-86Q in screw compressor with inside oil separator parallel unit, please take the below data as your reference.

型号 Model	中/高温范围 Medium and High Temp. Range	低温范围 Low Temp. Range
F-8613Q	130	180
F-8617Q	220	300
F-8621Q	390	520
F-8625Q	490	660
F-86065Q	720	1000
F-86080Q	940	1320
F-86100Q	1320	1550
F-86125Q	2050	2500

备注：以上标注基于在40°C冷凝温度允许压缩机最大理论排量VH ( m<sup>3</sup>/h )，制冷剂：R22,如使用其他制冷剂请与O&F技术部联系。

Remark: The allowed max.theoretical displacement VH ( m<sup>3</sup>/h) listed above are on the basis of 40°C condensing temperature and with refrigerant is R22. If other refrigerant you used, please contact with O&F technology department.

F-96系列二次油分离器是针对满液式制冷装置和高压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

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

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。

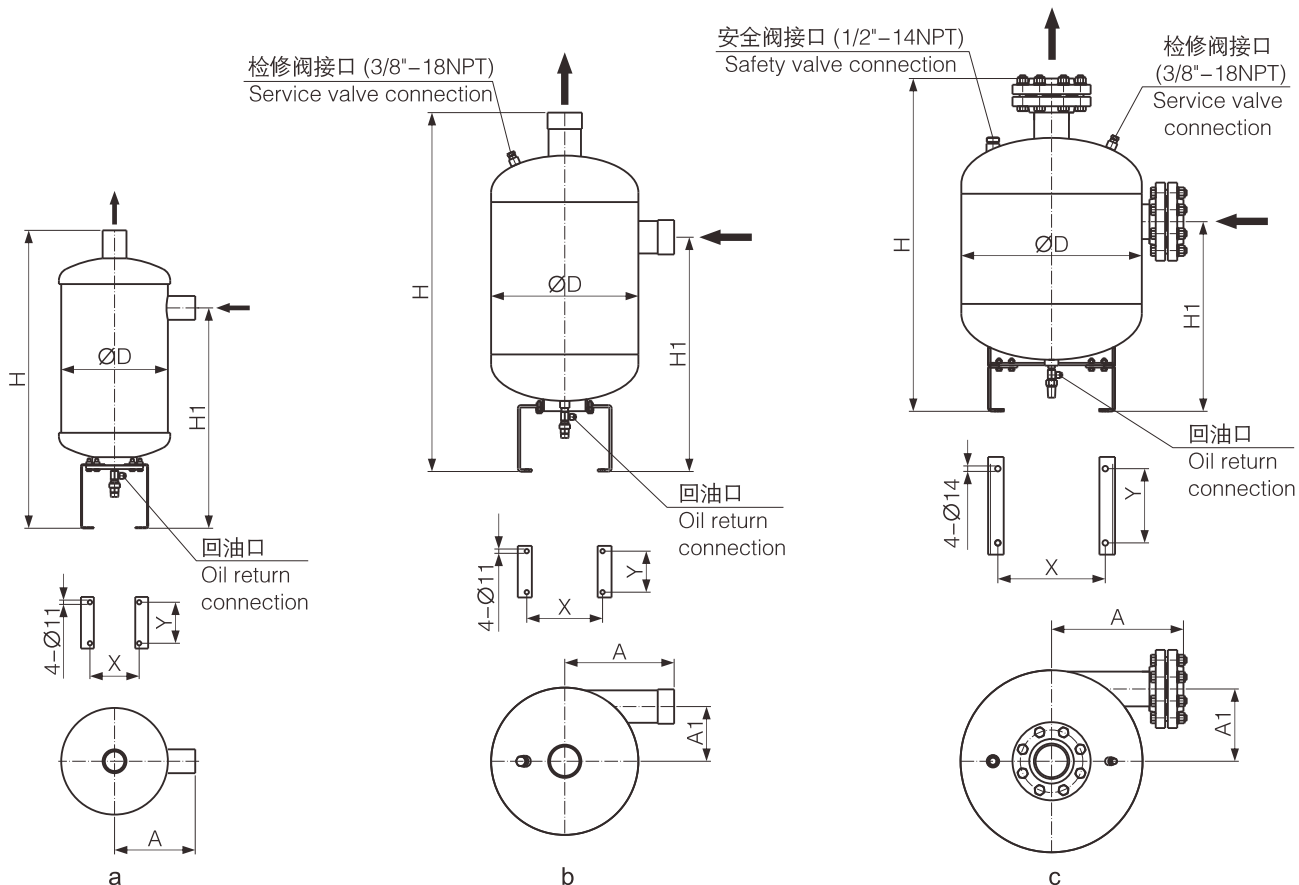
内桶下面设计了一个碟状反射屏，反射屏的独特设计使得油收集区域被独立分隔出来，它可以防止油分离器内流速过高时油收集区域内的油被带走。

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

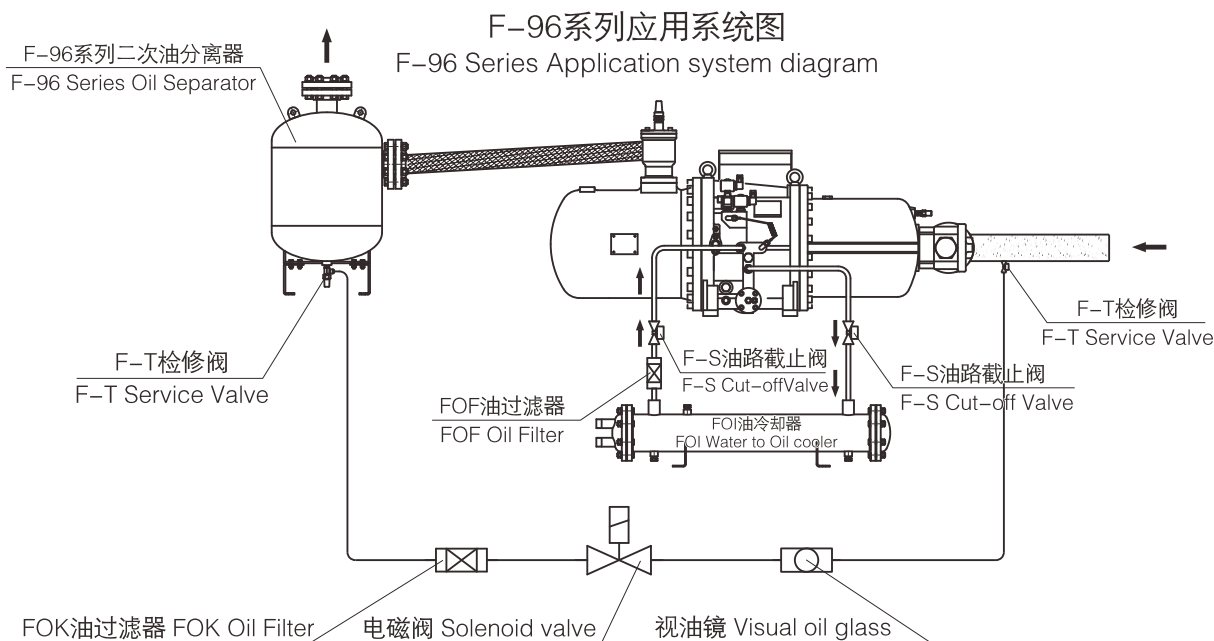
chaotic and they collide and get together with each other, and then they will be adsorbed by the demister and final become the oil drop. The oil drop will fall into the oil collection area at the bottom of the oil separator by the gravity action. This series of oil separator achieves the high-performance 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.







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	195	105	3/8"	41	b
F-961D	3-1/8"	377	919	609	280	140	195	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

在40°C冷凝温度允许压缩机最大理论排量VH ( m<sup>3</sup>/h )

Be allowed compressor Max theoretical displacement at condensing temperature 40°C VH ( m<sup>3</sup>/h )

型号 Model	中/高温范围 Medium and High Temp. Range	低温范围 Low Temp. Range
F-961A	130	180
F-961B	220	300
F-961C	390	520
F-961D	490	660
F-962A	720	1000
F-962B	940	1320
F-962C	1320	1550
F-962D	2050	2500

备注：以上标注的最大理论排量基于制冷剂：R22，如使用其他制冷剂请与O&F技术部联系。

Remark: The max. theoretical displacement mentioned above is on the basis of refrigerant R22, please contact with the technology department of O&F if you used other kinds of refrigerants.

OVS系列螺杆机外置油分离器的优秀设计可以确保螺杆压缩机得到良好的润滑。同时，可以使最少量的润滑油进入系统内部，从而提高系统的换热效率。

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。油温控制器设定温度最低+50℃，如果在低环境温度中使用需将油分离器作保温处理。

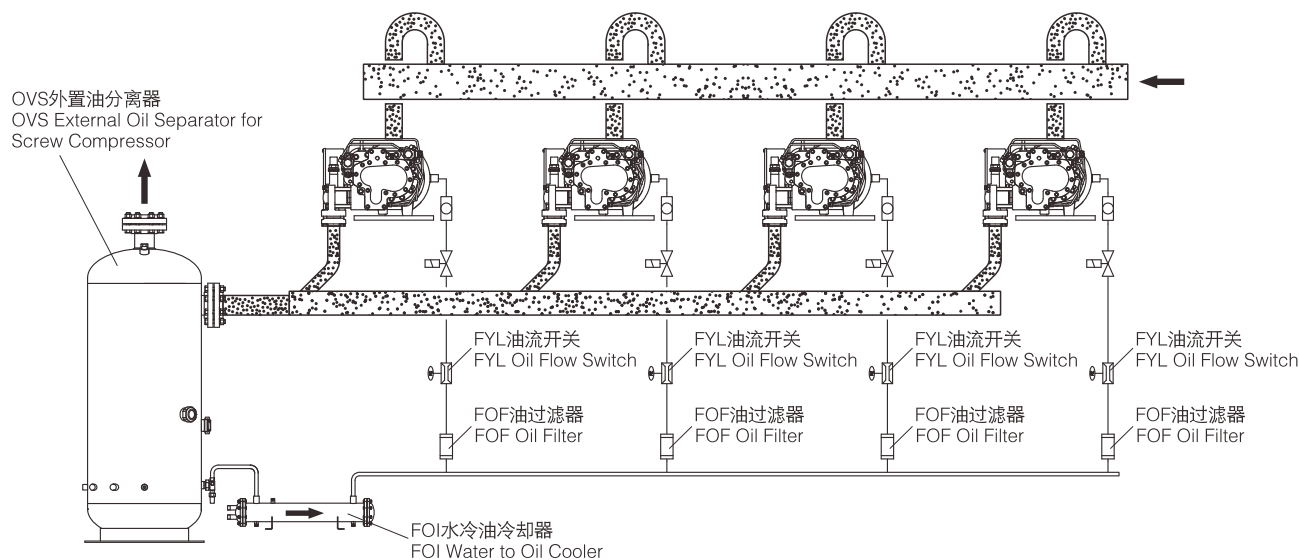
- 设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R404A、R507A。

With the excellent design of OVS Series external oil separator for screw compressor, it can ensure that the screw compressor get perfect lubrication. And at the same time, it will allow the least lubricant enter into the system, so the heat exchange ratio of the system will be increased.

The oil heater of the oil separator shall be power up to work when the compressor stops running, and it shall stop working when compressor starts to run. The lowest temperature of the oil temperature controller shall be set with +50℃, if you used the oil separator in the low-temperature environment, do please performe the insulation treatment to it.

The operation instruction to the photoelectric type oil level monitoring please check in the next page.

- Design Pressure: 2.9 MPa;
- Applicative refrigerants: R134a、R22、R404A、R507A.



### 技术参数 Technical Data

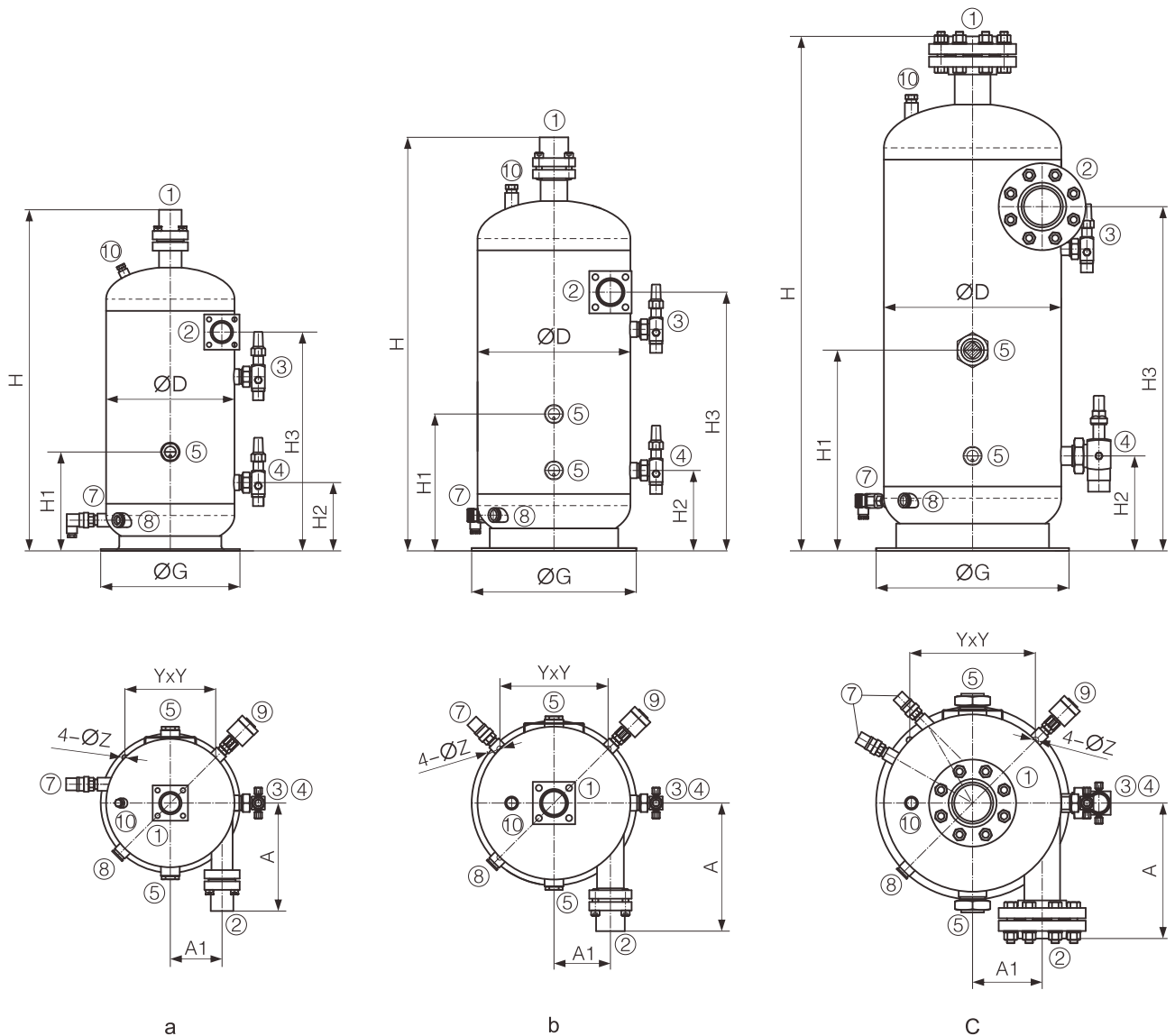
型号 Model	高/中温范围 High/Medium temperature range		低温范围 Low temperature range
	R134a, R22	R404A, R507A	R134a, R22, R404A, R507A
OVS.20/5	130	110	180
OVS.40/5	250	220	300
OVS.90/5	450	340	520
OVS.120/5	580	440	660
OVS.220/5	1160	840	1320
OVS.400/5	1320	1180	1550
OVS.670/5	2050	1900	2500
OVS.1100/5	2800	2550	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 ( m³/h )

The allowed max. theoretical displacement VH ( m³/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 Conn. for 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	油位开关接口 Conn. for oil level monitoring
9	安全阀接口 Conn. for safety valve



## 外形尺寸 Dimensional Drawings

	OVS.20/5	OVS.40/5	OVS.90/5	OVS.120/5	OVS.220/5	OVS.400/5	OVS.670/5	OVS.1100/5
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
制冷进进口 (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

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。

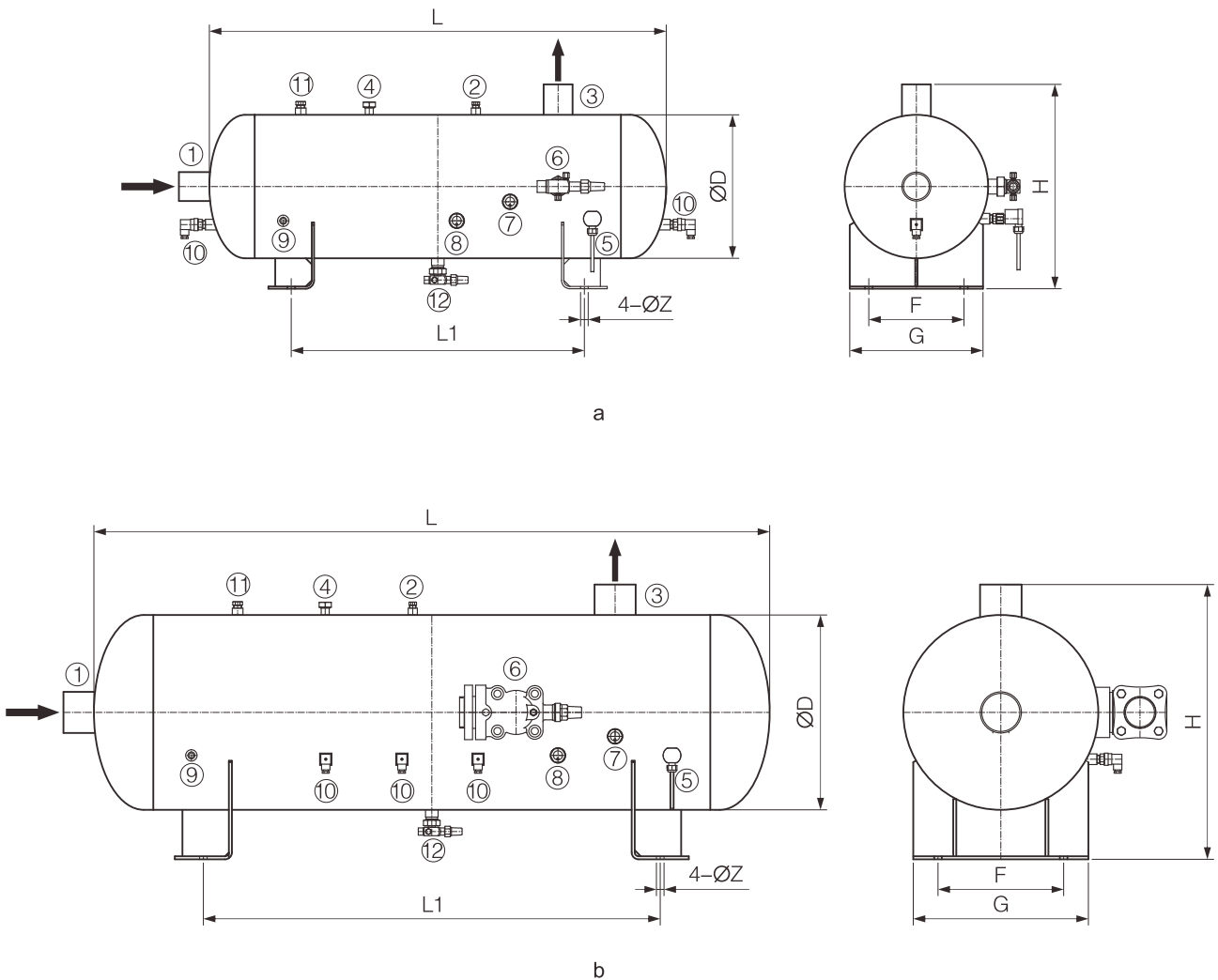
- 设计压力：2.9 Mpa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

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.



## 技术参数 Technical Data

型号 Model	蒸发温度 Evaporating temperature : -25℃ ~ -40℃
	R134a, R22, R407C, R404A, R507A
OWS-50	330
OWS-120	670
OWS-240	1030
OWS-330	1280
OWS-530	1840
OWS-800	2570
OWS-1200	3650

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<sup>3</sup>/h)  
The allowed max. theoretical displacement VH (m<sup>3</sup>/h) listed as above are on the basis of 40℃ condensing temperature

★如需要其他蒸发温度制冷能力请咨询法斯克(O&F)技术部

Please contact with O&F technology department if other condensing temperature required.

## 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	1600	1775	2000	2200	2500
L1 (mm)	660	770	1100	1200	1300	1450	1650
H (mm)	413	537	672	742	766	966	1066
G (mm)	255	350	420	460	550	640	720
F (mm)	175	250	290	330	400	460	530
ØZ(mm)	14	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	300W × 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

### 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 $50\mu\text{m}$ 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： $50\mu\text{m}$ ；
- 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)。

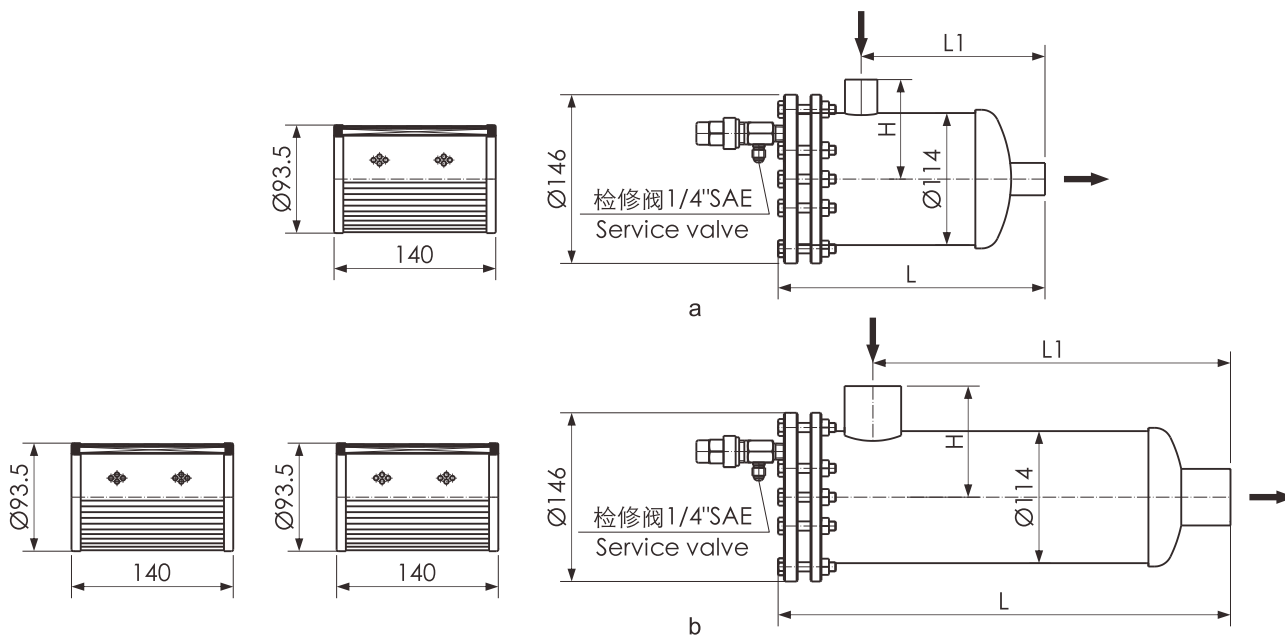
OLX Screw compressor coarse oil filter is installed on the oil outlet of OVS screw compressor external oil separator. It can filter system is larger than  $50\mu\text{m}$  particles in order to ensure the external screw compressor oil pipeline system for normal use.

- The design pressure: 2.9MPa;
- Filter accuracy:  $50\mu\text{m}$ ;
- 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.



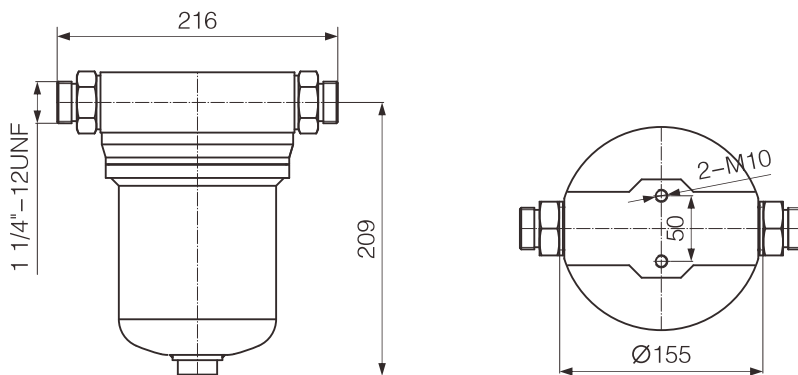
型号 Model	接口尺寸 Joint Size ( $\text{Ø}$ mm )	L (mm)	L1 (mm)	H (mm)	过滤面积 Filter Area ( $\text{m}^2$ )	图例 Fig.
OLX-05	16	221	153	76	0.12	a
OLX-07	22	231	159	86	0.12	a
OLX-09	28	230	156	85	0.12	a
OLX-13	42	382	300	96	0.24	b
OLX-17	54	392	304	97	0.24	b
OLX-25	76	389	289	96	0.24	b

**FOF 螺杆机油过滤器** 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。

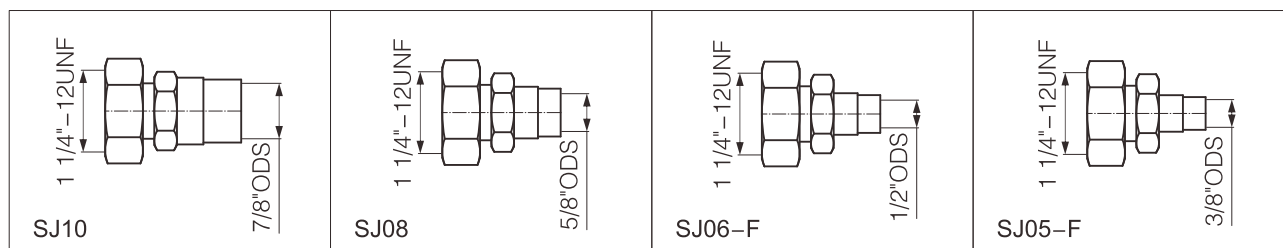
- 最大许可工作压力：31 bar；
- 最高运行温度：+120°C；
- 过滤精度：25 μm；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- 适用润滑油：矿物冷冻机油 (MO)，多元醇酯合成冷冻机油 (POE)，烷基苯合成冷冻机油 (AB)。

**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 °C;
- Filter accuracy: 25 μm;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- Can be used with mineral oil (MO)、full synthetic (POE)、semi-synthetic lubricant (AB).

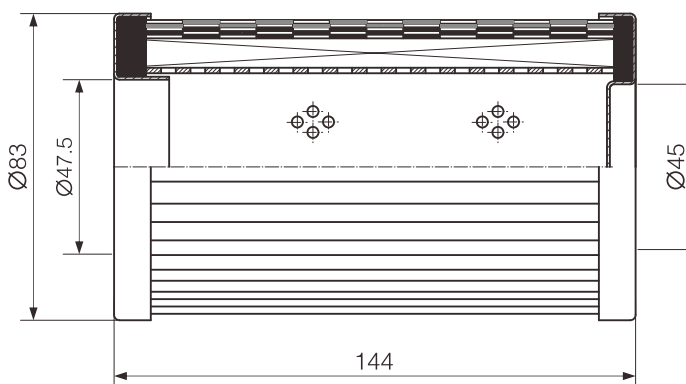


FOF 螺杆机油过滤器用直线接头



**FOF-00W 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)。

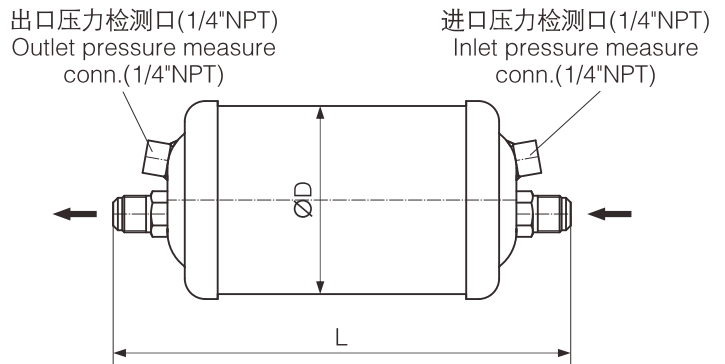
**FOF-00W Oil Filter Core** The Oil filter core is design with balayuse type. It has vast filter area and quite small pressure drop. FOF-00W oil filter core also can be used for Bitzer HS.53，HS.64，HS.74，HS.85 series oil filter for screw compressor (O-ring is standard configuration).





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。

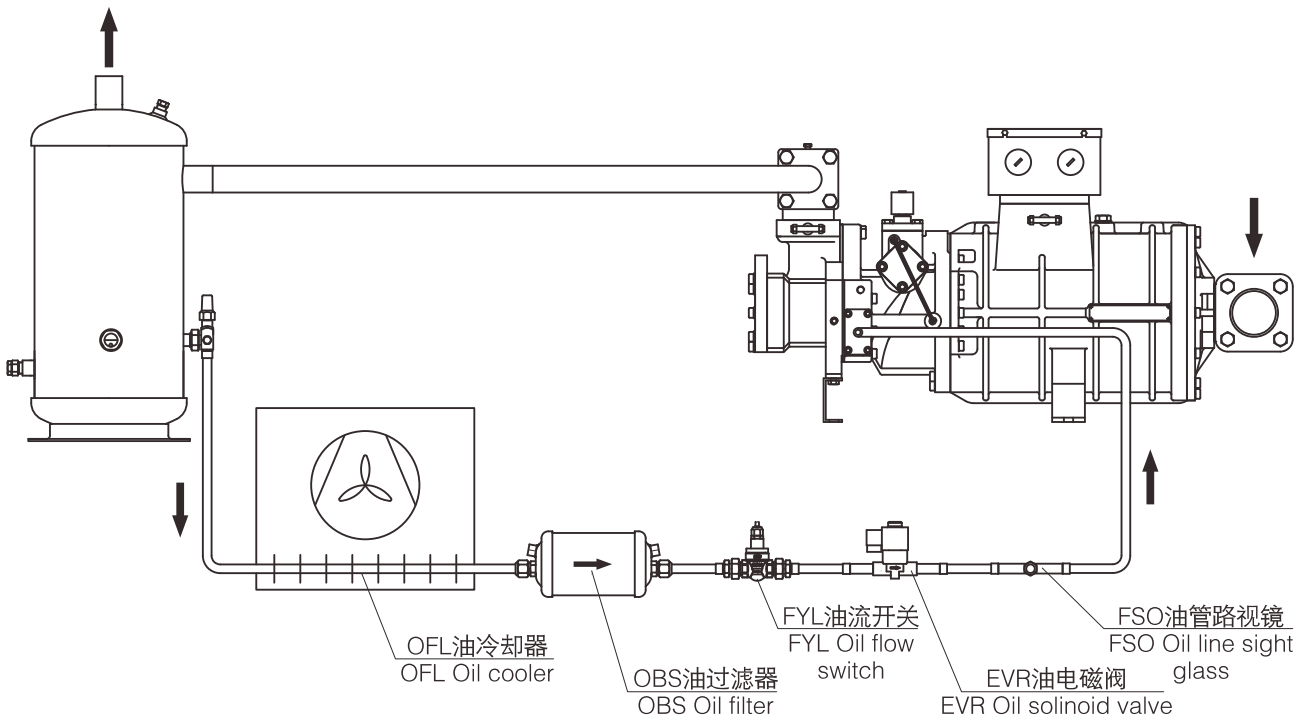
- 最大许可工作压力：31 bar；
- 最高运行温度：120°C；
- 过滤精度：50 μm；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- 适用润滑油：矿物冷冻机油（MO），多元醇酯合成冷冻机油（POE），烷基苯合成冷冻机油（AB）。



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°C;
- Filter accuracy: 50 μm;
- 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 <sup>2</sup> )
OBS-10	3/8"SAE	114	266	0.12
OBS-12	1/2"SAE	114	270	0.12
OBS-16	5/8"SAE	114	278	0.12



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。

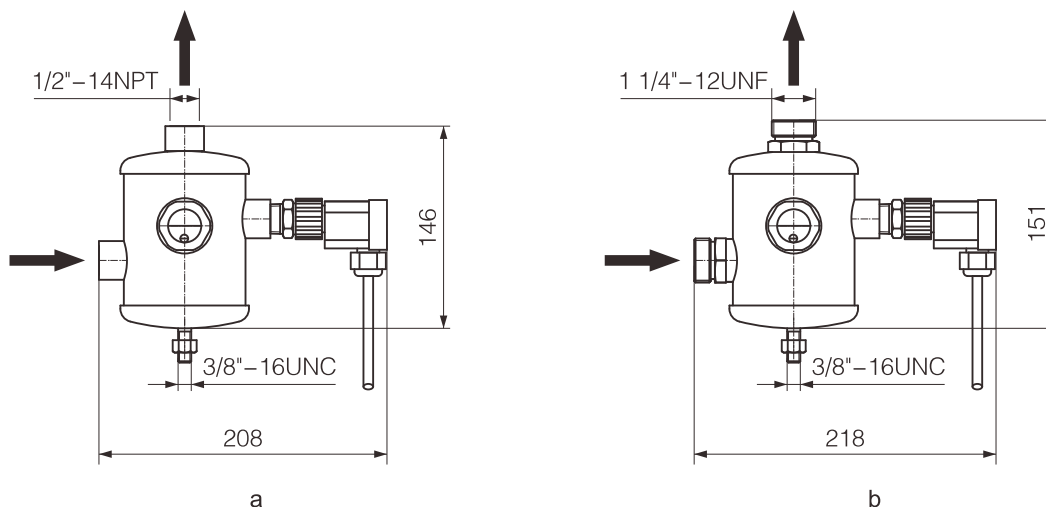
★ FOG必须水平安装，否则会造成控制失灵。

- 输入电压：220V/AC/50Hz
- 最大许可运行压力：31 bar
- 许可工作温度：+120°C ~ -40°C
- 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°C ~ -40°C
- Can be used with mineral oil (MO)、full synthetic (POE)、semi-synthetic lubricant(AB)



S-03	S-04	S-05	SJ-10

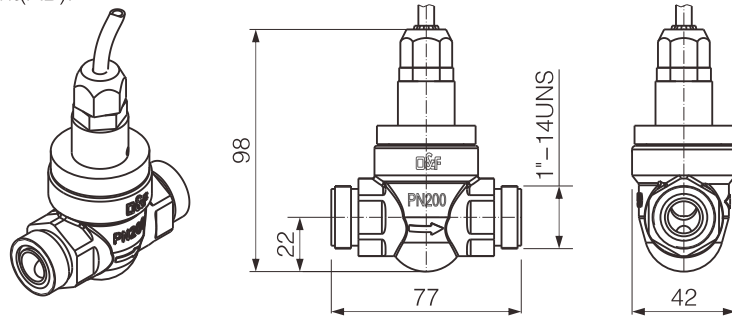
型号 Model	接口尺寸 Joint Size	图例 Fig.
FOG-01	1/2"-14 NPT	a
FOG-02	1 1/4"-12 UNF	b

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。

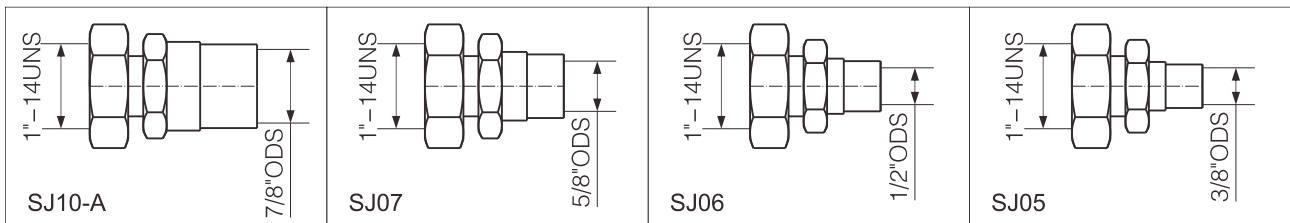
- 为了开关能长久的工作必须对开关簧片进行保护，不可以直接连入低压电路；
- 高效的流量通道，确保极低的压力降；
- 输入电源：220V/AC/50Hz；
- 最大许可工作压力：31 bar；
- 最高油温：120 °C；
- 适用润滑油：矿物冷冻机油 (MO)，多元醇酯合成冷冻机油 (POE)，烷基苯合成冷冻机油 (AB)。

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.

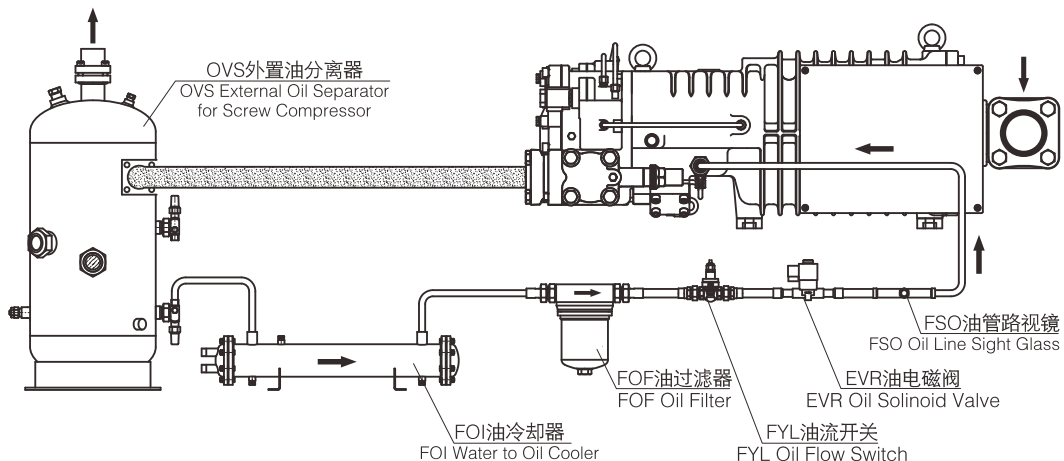
- Do please protect the switch reed for its long working life, please do not directly connect it into low voltage circuit.
- High-efficiency flow passageway which can guarantee the lowest pressure-drop.
- Input voltage : 220V/AC/50Hz ;
- Max. admissible working pressure : 31 bar ;
- Max. oil temperature : 120 °C ;
- 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



## 性能参数:

- 输入电源: 220V/AC/50Hz
- 继电器触点容量: 250V/AC/5A

## 工作原理:

1、控制模块上电, 继电器常开点接通, 延时3s, 当检测到油流开关为接通状态, 指示灯亮, 继电器常开点继续接通。当检测到油流开关为不接通状态, 指示灯灭, 继电器常开点断开, 常闭点接通。

2、当油流开关检测到油流量低于最小接通流量后, 指示灯灭, 延时 $5s \pm 2s$ , 继电器常开点断开, 常闭点接通。

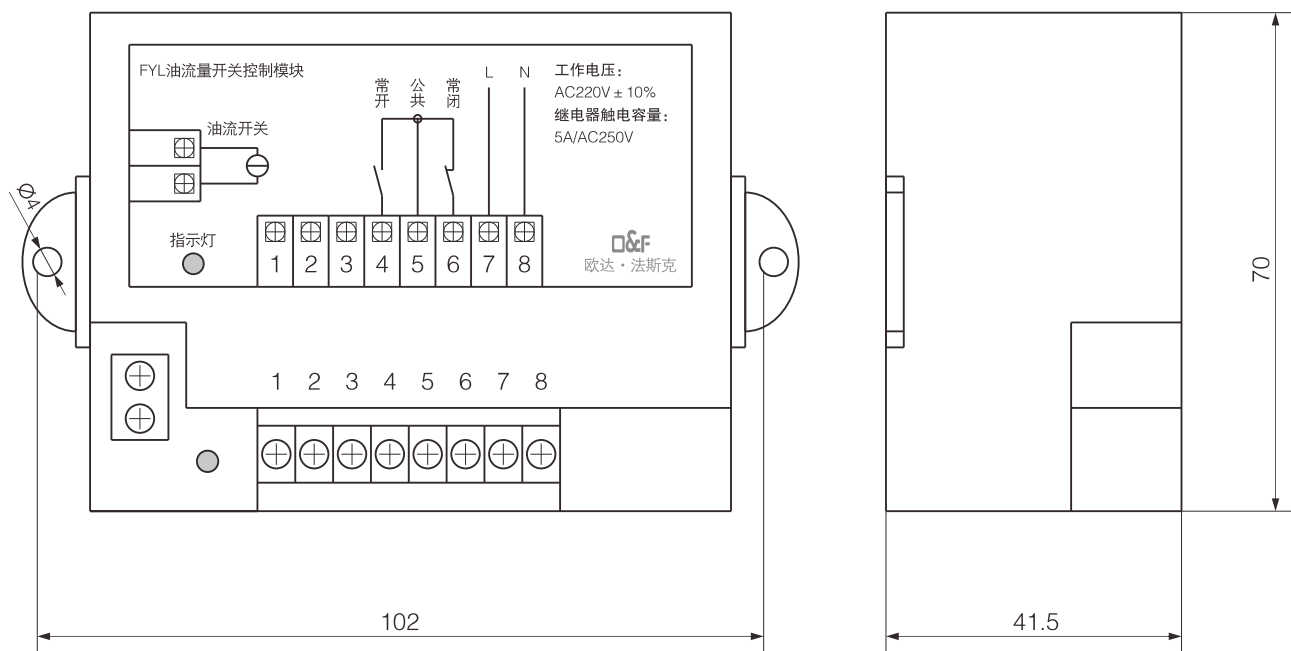
## Performance parameter:

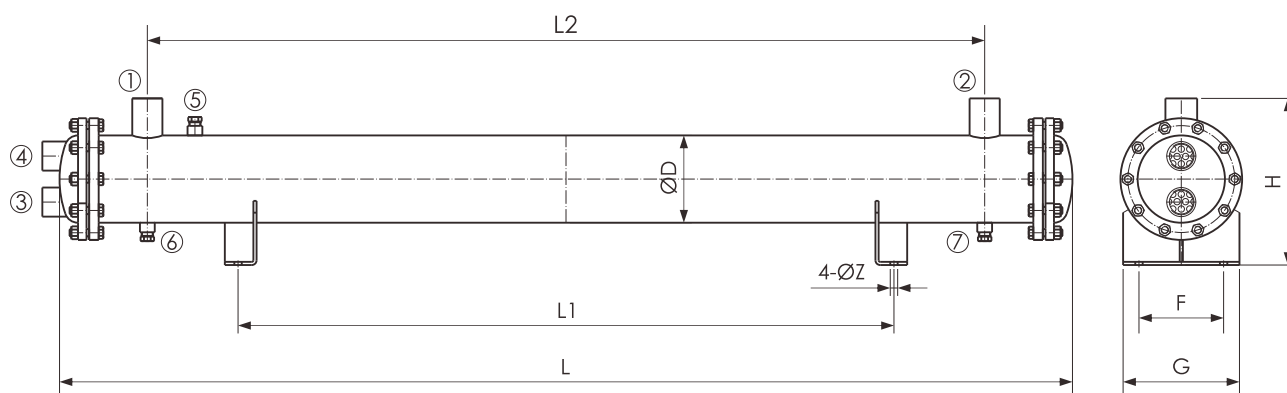
- Input voltage: 220V/AC/50Hz;
- Contact capacity of Relay: 250V/AC/5A;

## Operational principle:

1、When the control module is powered on, the normally open contacts of relay will be connected, and have time delay with 3s. When it is checked that the oil flow switch is connected, the indicator lighting and the normally open contacts of relay continue to be connected. When it is checked that the oil flow switch is disconnected, the indicator will lighting-off and the normally open contacts of relay will be disconnected, and the normally close contacts will be connected.

2、When it is checked that the oil flow is lower than the min. switch on flow, the indicator will lighting-off, and have time delay with  $5s \pm 2s$ , the normally open contacts of relay will be disconnected, and the normally close contacts will be connected.





尺寸 Dimension	型号 Model	FOI-29(B)	FOI-57(B)	FOI-86(B)	FOI-120(B)	FOI-180(B)
ØD		114	140	140	140	165
L		924	1048	1348	1748	1915
L1		450	550	840	1240	1240
L2		632	732	1032	1432	1583
H		237	250	260	260	315
G		168	180	180	180	220
F		120	120	120	120	160
ØZ		12	12	12	12	12
技术数据 Technical data						
水温35°C换热量 Heat exchange capacity of water temperature 35°C	KW	4.6 ~ 8.2	10.3 ~ 17.6	18.6 ~ 27.2	29.8 ~ 45.5	42.5 ~ 70.0
水流量 Water flow	m <sup>3</sup> /h	2.0 ~ 4.5	3.0 ~ 6.0	3.0 ~ 6.5	3.0 ~ 7.5	3.4 ~ 10.0
压降 Pressure drop	bar	0.22	0.23	0.24	0.25	0.35
油流量 Oil flow	m <sup>3</sup> /h	0.5 ~ 0.7	0.7 ~ 1.4	1.4 ~ 2.2	2.1 ~ 3.8	2.9 ~ 5.5
油侧内部容积 Internal capacity on the side of oil	L	4.7	8.7	11.6	15.5	23.8
油侧最大工作压力 The Max. working pressure on the side of l	bar	28	28	28	28	28
水侧最大工作压力 The Max. working pressure on the side of water	bar	10	10	10	10	10
参考数据 Reference data						
进油口温度 The oil temperature in the inlet +80°C						
出油口温度 The oil temperature in the outlet +60°C						
污垢系数 Scale factor	0					
接口尺寸 Connection dimension						
① 油进口 Oil inlet		Ø38 × 3.0	Ø38 × 3.0	Ø45 × 3.0	Ø45 × 3.0	Ø57 × 3.5
② 油出口 Oil outlet		Ø38 × 3.0	Ø38 × 3.0	Ø45 × 3.0	Ø45 × 3.0	Ø57 × 3.5
③ 进水口 Water connection		G 1"	G 1"	G 1-1/4"	G 1-1/4"	G 1-1/2"
④ 出水口 Water connection		G 1"	G 1"	G 1-1/4"	G 1-1/4"	G 1-1/2"
⑤ 检修阀接口 Safety valve connection		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
⑦ 放油口 Oil discharge outlet		1/2"-14NPT	1/2"-14NPT	1/2"-14NPT	1/2"-14NPT	1/2"-14NPT

备注：型号中带有 (B) 的产品，装配的是不锈钢管板，如有需求，请与O&F销售部联系。

Remark: The model with (B) is assembled with stainless steel tube plate, if you needed this kind of product, please contact with O&F sale department.

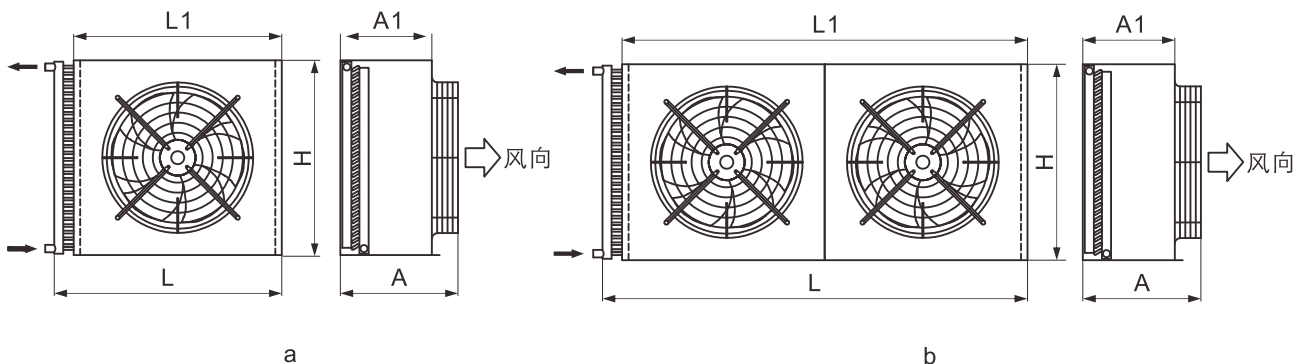
- 输入电压：380V/AC/50Hz
- 合理的管路设计保证了最小的压力降
- 适用矿物冷冻机油（MO）、多元醇酯合成冷冻机油（POE）、烷基苯合成冷冻机油（AB）
- Input voltage: 380V/AC/50Hz
- Reasonable design of the tube line can make sure the minimum pressure drop
- Can be used with mineral oil (MO)、full synthetic (POE)、semi-synthetic lubricant(AB)

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°C	32°C	36°C	43°C
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°C

The data listed above is on the base of the temperature of oil inlet is +80°C

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

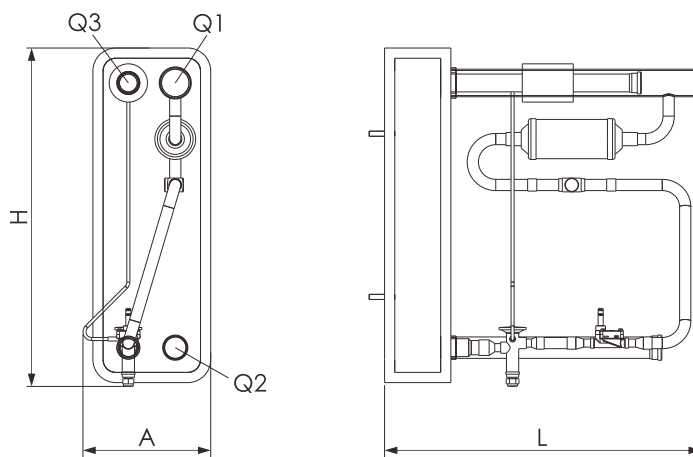
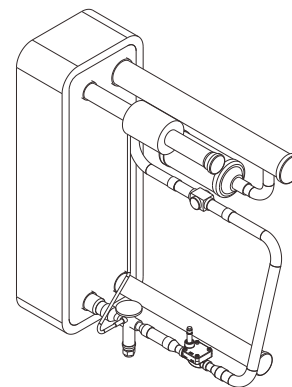


HOD系列经济器是由板式换热器、过滤器、视镜、电磁阀、膨胀阀5部分组成的，板式换热器保温和全部零件紫铜管连接全部在工厂完成，方便客户现场安装。

- 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）。

HOD 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 ) .



型号 Model	接口尺寸 (inch) Conn. size (inch)			外形尺寸 (mm) Outline dimension (mm)		
	Q1(ODF)	Q2(ODF)	Q3(ODF)	L	A	H
HODKV001	7/8"	7/8"	5/8"	448	145	295
HODKV002	7/8"	7/8"	5/8"	466	145	295
HODKV003	1-1/8"	1-1/8"	7/8"	450	175	400
HODKV004	1-1/8"	1-1/8"	7/8"	460	175	400
HODKV005	1-3/8"	1-3/8"	7/8"	565	170	357
HODKV006	1-3/8"	1-3/8"	1-1/8"	599	170	357
HODKV007	2-1/8"	2-1/8"	1-1/8"	560	251	664
HODKV008	2-1/8"	2-1/8"	1-1/8"	613	251	664

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

HOD 系列经济器负荷参数表  
HOD Series Economizer load data

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
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°C

The data listed above is on the base of refrigerant R22、R407C, and the condensing temperature +40°C



储油器用于储存未蓄留在压缩机曲轴箱内，又不在于油分离器中，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。

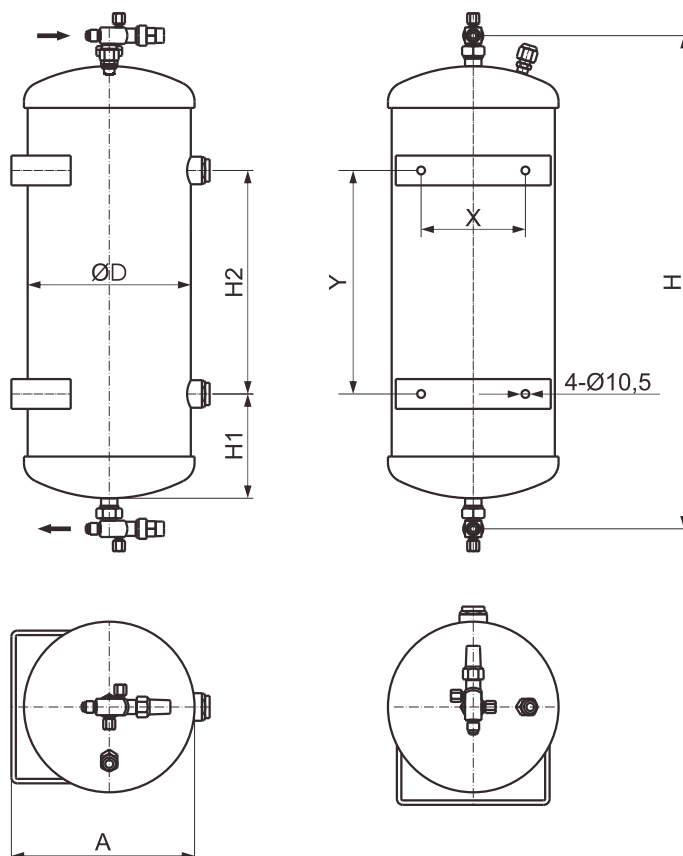
强烈推荐供油管路中必须安装FOK系列油过滤器。否则，油中的脏物会导致油位控制器失灵。

- 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。

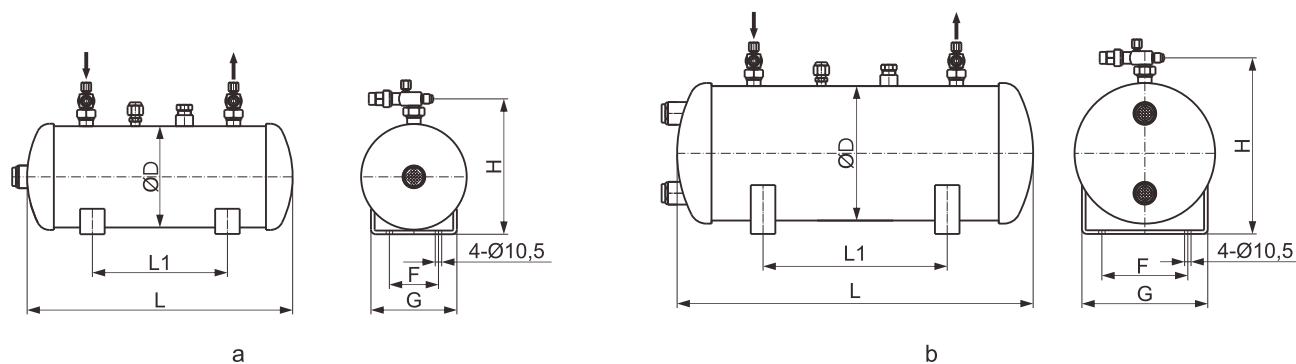
强烈推荐供油管路中必须安装FOK系列油过滤器。否则，油中的脏物会导致油位控制器失灵。

- 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.



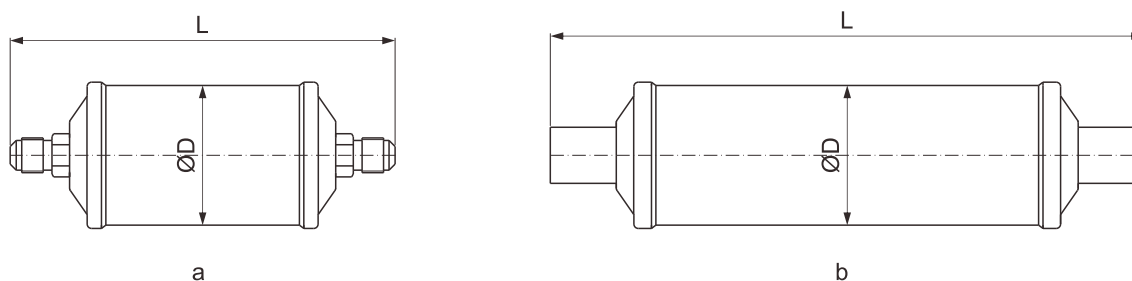
型号 Model	进、出口尺寸 Inlet/Outlet Size (SAE)	ØD (mm)	L (mm)	L1 (mm)	H (mm)	F (mm)	G (mm)	容积 Volume (l)	图例 Fig.
FOW-6	3/8"	165	333	140	223	80	140	6	a
FOW-8	3/8"	165	433	220	223	80	140	8	a
FOW-10	3/8"	165	538	320	223	80	140	10	a
FOW-12	3/8"	165	638	360	223	80	140	12	a
FOW-14	3/8"	219	435	164	278	140	205	14	b
FOW-19	1/2"	219	580	300	278	140	205	19	b
FOW-23	1/2"	219	695	420	282	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 and 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：50 μ m。

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: 50 μ m.



型号 Model	接口尺寸 Joint Size(Inch)	ØD (mm)	L (mm)	图例 Fig.
FOK-02	1/4"SAE	64	115	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

FOE系列产品是一款智能型压缩机油位控制器，分为“L”和“1”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。

“1”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。

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 “1”.

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-hermetic piston compressor and Whole-hermetic scroll compressor whose oil storage tank locates in low-pressure area.

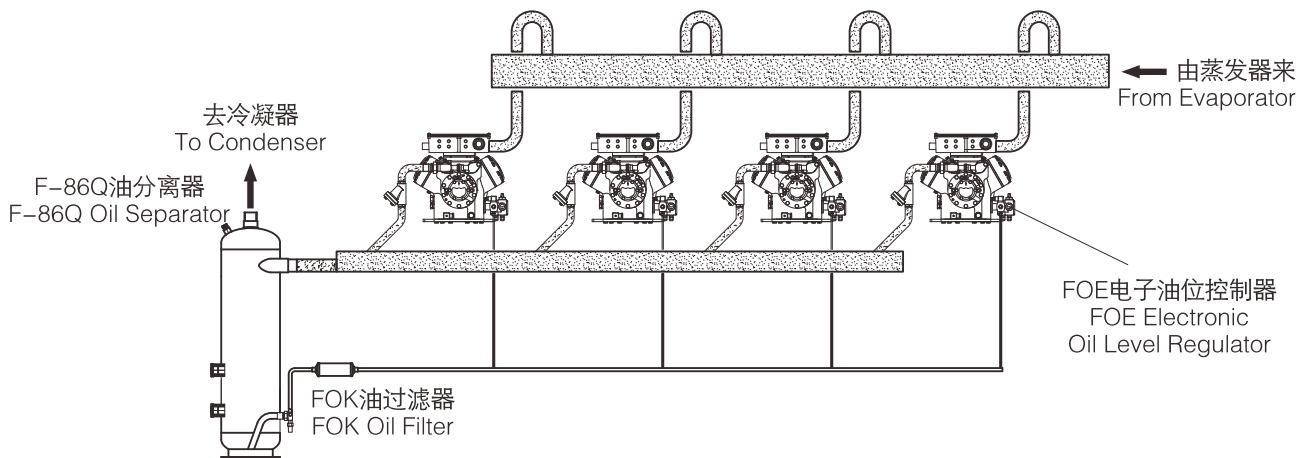
The oil level regulator with “1” oil feeding form: the lubricating oil is sprayed into the suction nozzle of compressor through the oil connecting line, and this oil

- 输入电压: 220VAC/50Hz;
- 最大许可工作压力: 31 bar;
- 最高油温: 120 °C;
- 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。

feeding form is suitable for Semi-hermetic scroll compressor and Oil separator built-in screw compressor whose oil storage tank locates in high-pressure area.

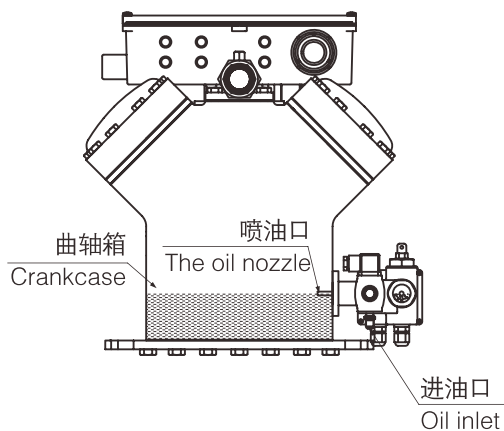
- Input voltage: 220VAC/50Hz;
- Max. Admissible Working Pressure: 31 bar;
- Max. oil temperature: 120 °C;
- Max. Running pressure difference of solenoid valve in oil circuit line: 21 bar;
- Contact capacity: 3A/220VAC/50Hz;
- Oil conn. size: 1/4"SAE;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.

## 高压回油系统 High Pressure Oil Return System

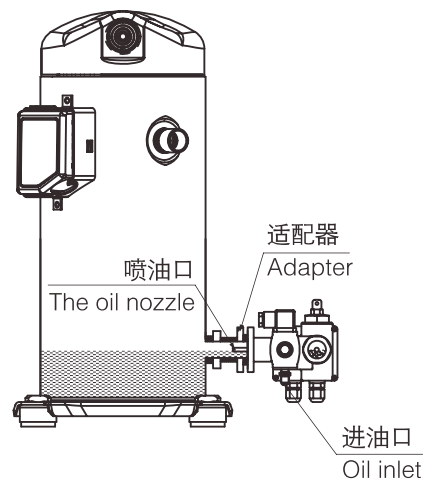


新设计的系统多以排气压力回油  
Oil control feeds at discharge pressure in new system

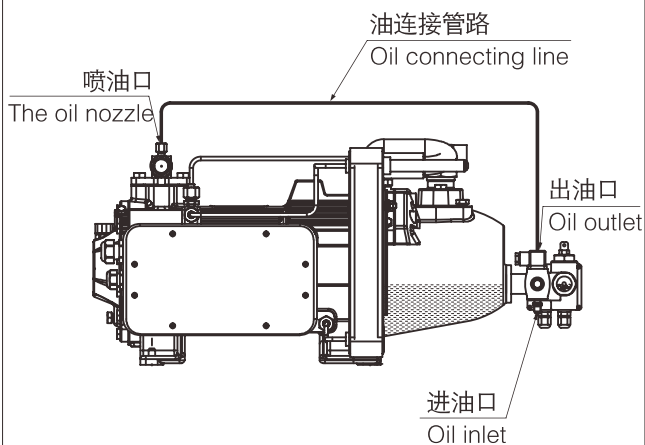
“L” 供油形式安装示意图 (半封闭活塞式压缩机)  
Installation schematic diagram of oil feeding form “L”  
(Semi-hermetic piston compressor)



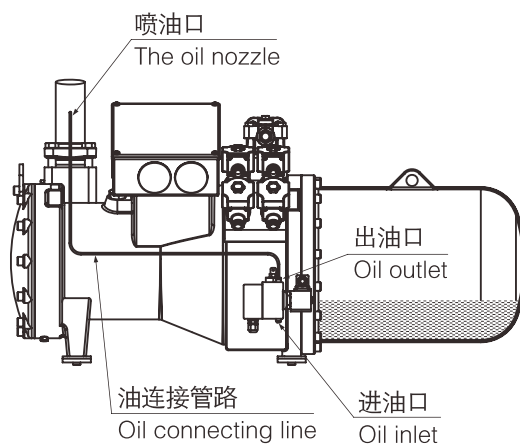
“L” 供油形式安装示意图 (全封闭涡旋式压缩机)  
Installation schematic diagram of oil feeding form “L”  
(Whole-hermetic scroll compressor)

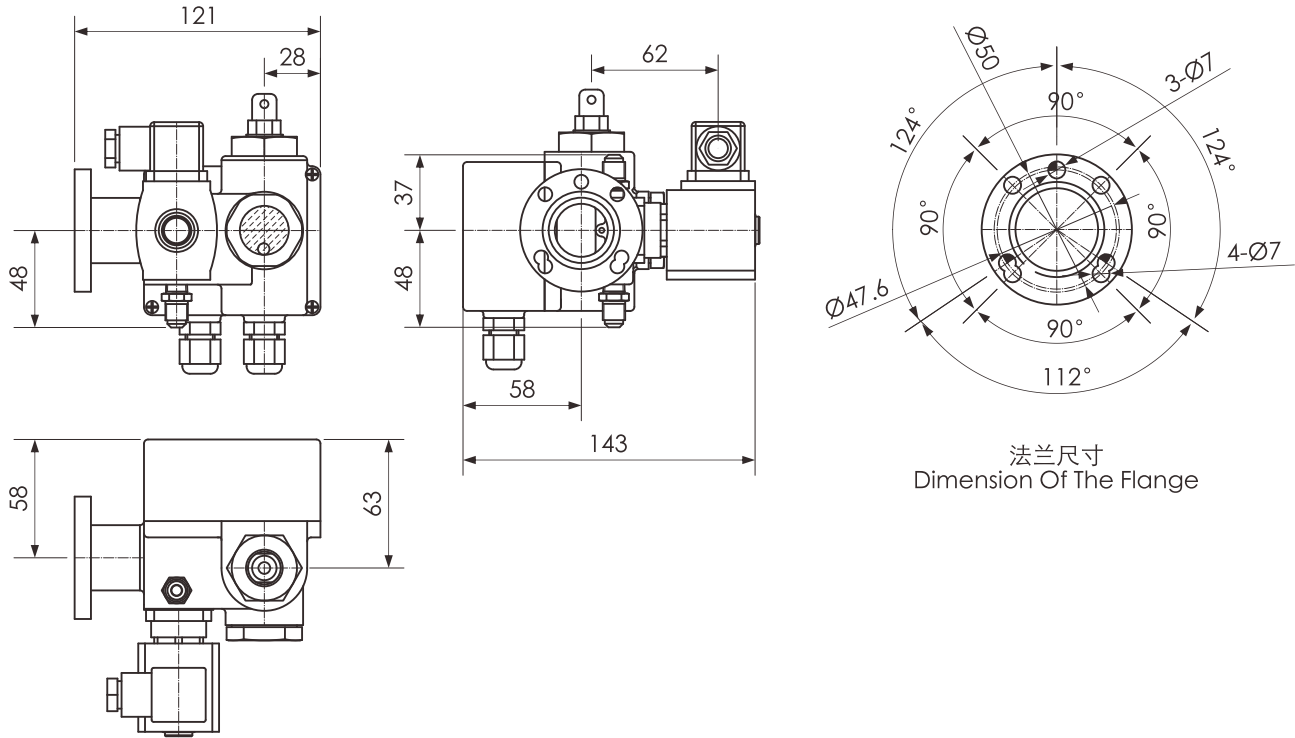


“I” 供油形式安装示意图 (半封闭涡旋式压缩机)  
Installation schematic diagram of oil feeding form “I”  
(Semi-hermetic scroll compressor)



“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)





型号 Model	适用压缩机 Applicative compressor	报警延时 (s) Alarm time delay	排气 温度保护 (°C) 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

F-OM系列可调节油位控制器是通过调节浮球式针阀的位置，达到精确控制压缩机曲轴箱油位，以适应不同的制冷装置使用要求。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。

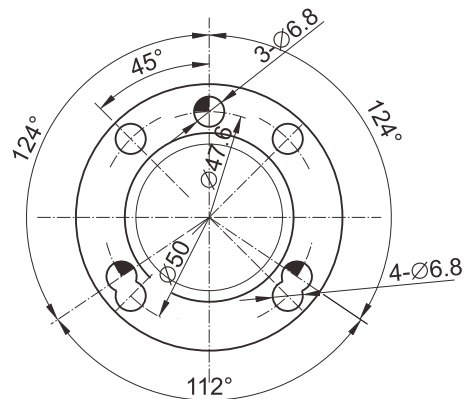
当并联的压缩机工作在不同的吸气压力下时，应选用可调节的油位控制器（双级压缩系统、运行工况复杂的系统、不同蒸发温度系统）。

- 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-OM Series adjustable oil level regulator accurately controls the oil level in compressor crankcase by adjusting the position of float charging valve in order to adapt the requirement of the different refrigerant vessels. 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.

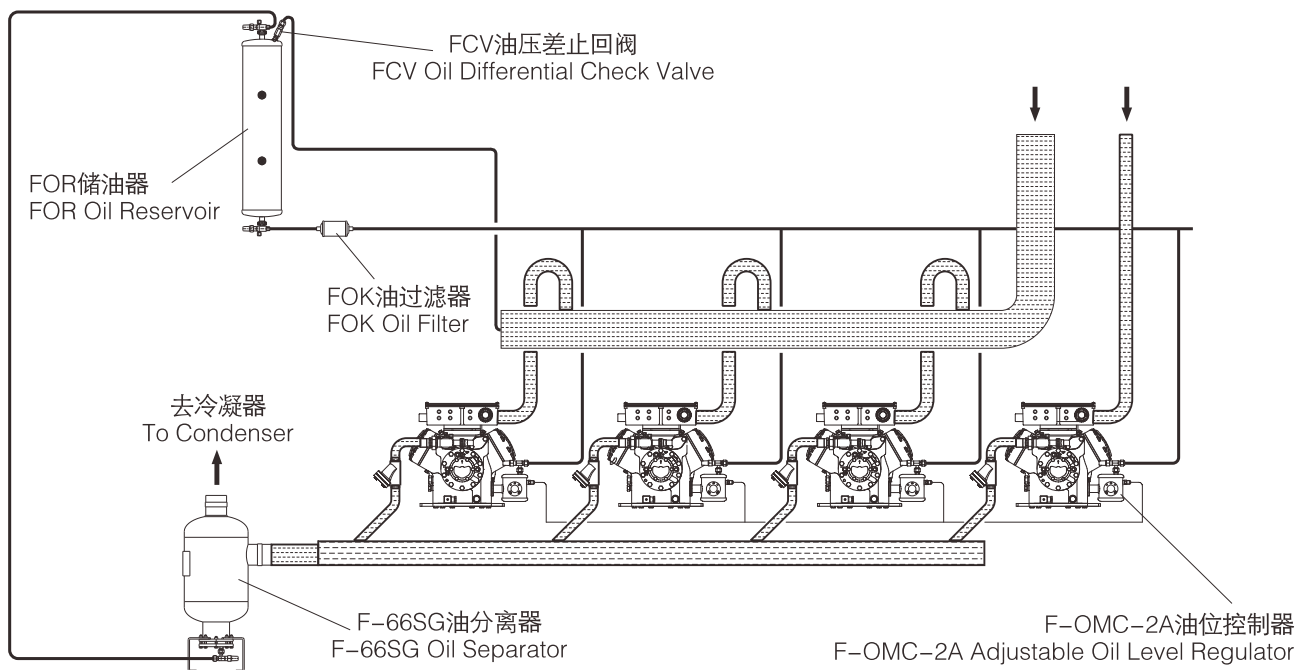
The adjustable oil level regulator (two-stage compression system, the complicated working condition system, the different evaporated temperature system) will be used when the compressors in parallel unit are working in the different suction pressure.

- 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.



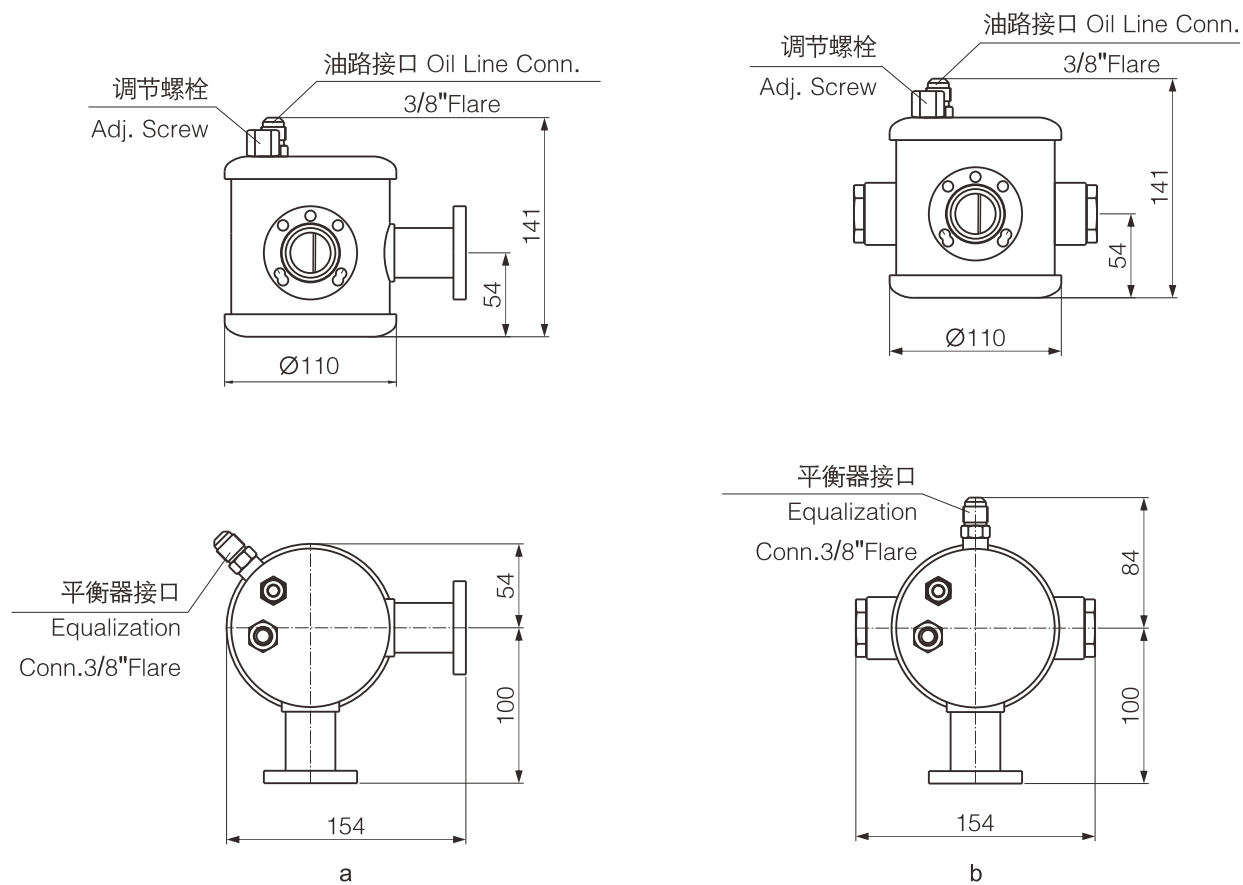
法兰尺寸  
Dimension Of The Flange

### 不同蒸发温度系统 Different Evaporator Temperature 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



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-OMA-2A	可调节 Adjustable	中间 +5/-5 mm Center +5/-5 mm	1.38	6.5	0.8	a
F-OMC-2A		1.38	6.5	0.8	b	

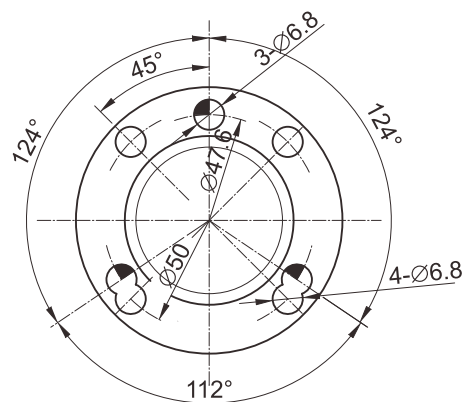


F-OL系列油位控制器是通过浮球式针阀精确的控制压缩机曲轴箱内油位的，它可以直接或通过相应型号的适配器与各种压缩机连接，并机组的多台压缩机可以水平方向安装也可以垂直方向安装。

- 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。

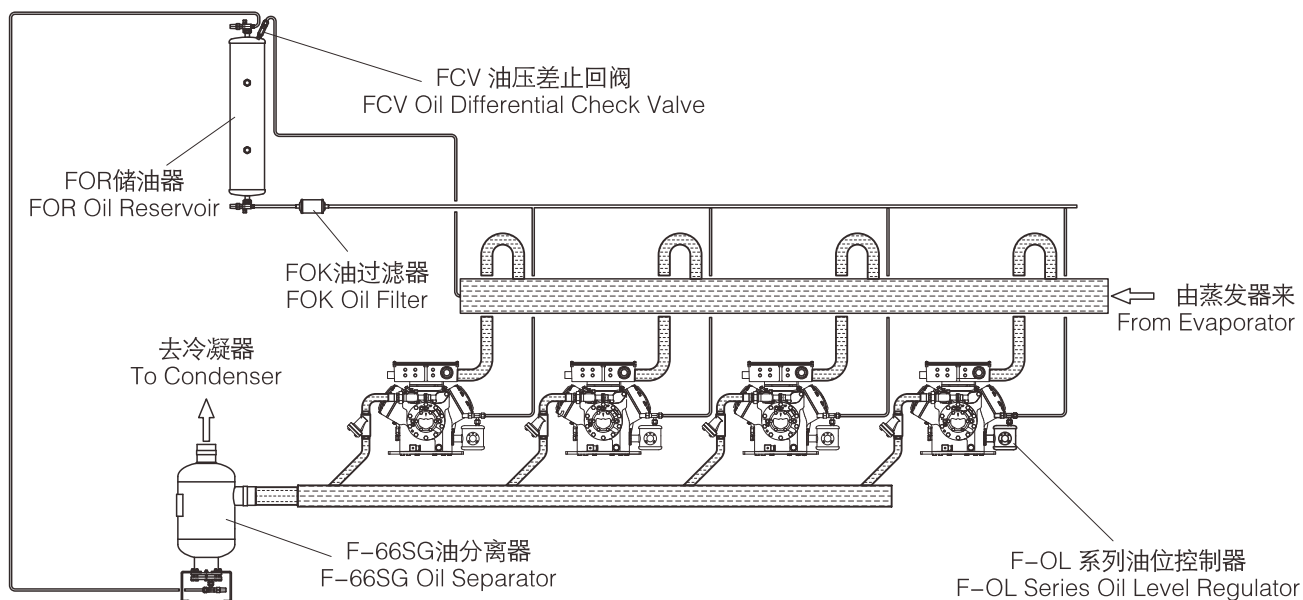
F-OL Series Oil level regulator accurately controls the oil level in compressor crankcase by float charging valve. It can be directly or by using the relevant type of adapter connected with all models of compressors. The compressors in parallel unit can be installed in horizontal direction or vertical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

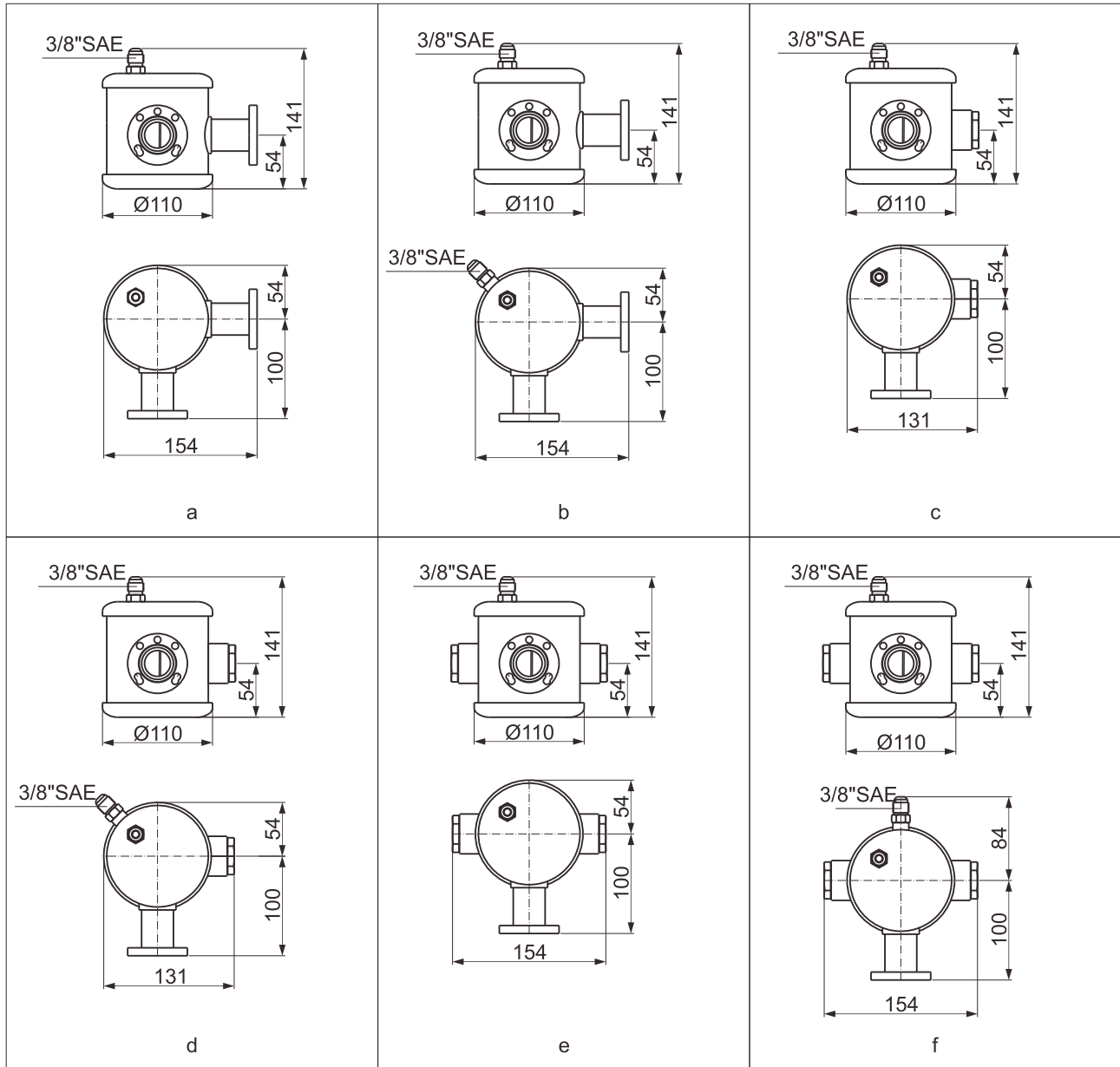


法兰尺寸  
Dimension Of The Flange

## 低压回油系统 Low Pressure Oil Return System



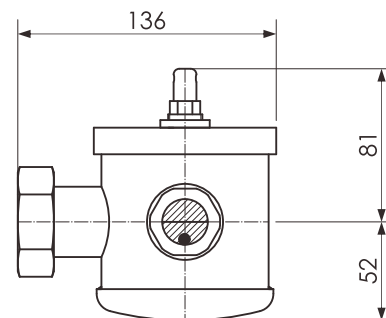
传统的方式以略高于吸气管路压力回油  
The traditional method is that to feed the oil slightly higher than the suction line pressure



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

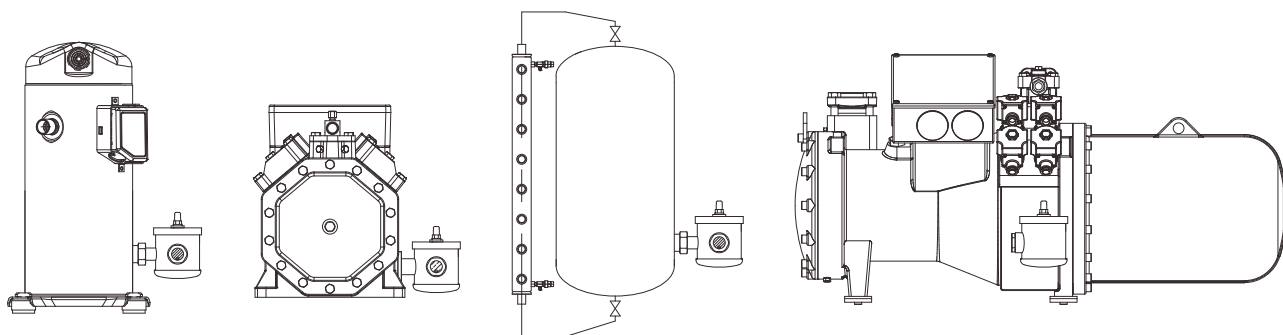
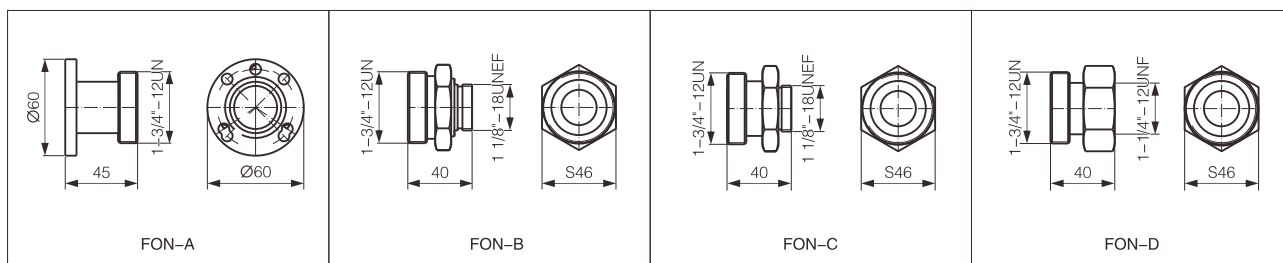
通过浮子开关输出开关信号，用于检测压缩机油位和容器液位。为了开关能长期工作必须对簧片进行保护，不可以直接连入低压电器。

- ★ FON必须水平安装，否则会造成控制失灵。
- 输入电源：220V/AC/50Hz
- 最大许可运行压力：31 bar
- 许可工作温度：+120℃ ~ -40℃
- 最小液体比重：0.85
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。



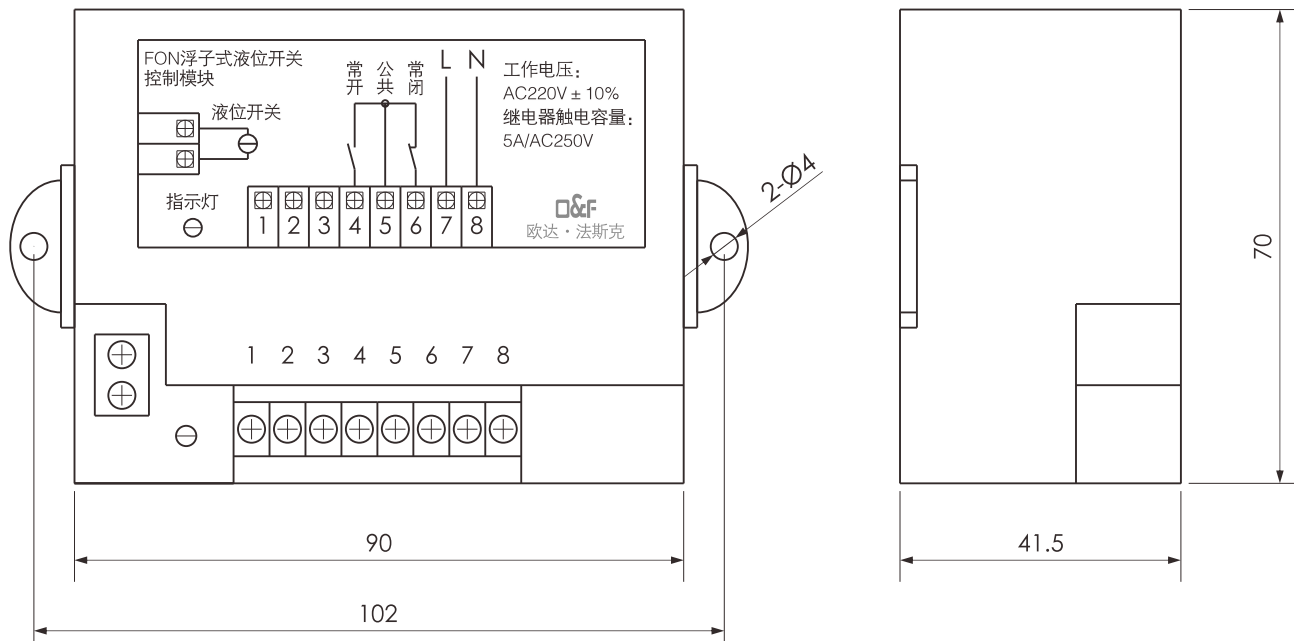
It will output the switching signal through by the float type switch, with which can inspect the oil level of compressor and the liquid level of the vessel products. Do please protect the switch reed for its long working life, and do not directly connect it into low voltage circuit.

- ★ FON series float-type level switch must be horizontal installation, otherwise it will cause control failure.
- Input voltage : 220V/AC/50Hz
- The max. admissible running pressure : 31 bar
- Admissible working temperature : +120℃ ~ -40℃
- The min. proportion of liquid : 0.85
- Applicative refrigerants : R134a、R22、R407C、R404A、R507A



应用示意图 Application Diagrammatic

- 工作电压：AC220V ± 10%
- 继电器触点容量：5A/AC250V
- 控制模块内继电器吸合延时3s ± 1s断开
- 油位正常，浮子浮起，指示灯亮
- 油位不正常，浮子落下，指示灯灭
- 浮子开关接通/断开延时5s ± 2s
- Work voltage: AC220V ± 10%
- Contacts capacity of relay: 5A/AC250V
- The relay of control module will switch off with time delay of 3s ± 1s;
- The float come up, the indicator lighting when the oil level is normal.
- The float go down, the indicator lighting-off when the oil level is unnormal.
- The float switch is on/off with time delay of 5s ± 2s.



型号 Model	连接方式 Connection type	视镜液面 SG-Level	触点 Contacts	备注 Comments
FON-01	 1-3/4"-12UN	 1/2	断开 (OFF)  接通 (ON) 	液面降至视镜底部时，浮子开关断开。 When the liquid level fall to the bottom of sight glass, the float switch off.
FON-11	 1-3/4"-12UN	 1/2	断开 (OFF)  接通 (ON) 	液面降至视镜1/2下方4mm时,浮子开关断开。 When the liquid level fall to 4mm lower of 1/2 sight glass, the float switch off.

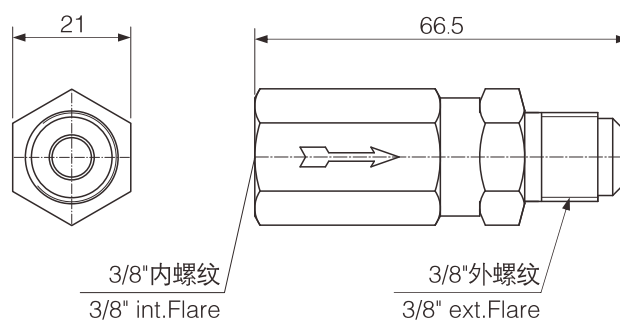
油压差止回阀一端安装在FOR储油器上部的3/8" SAE接头上。为了使回油有足够的流速，在储油器与压缩机曲轴箱之间必须有一定的压差。这个压差一定要受到控制。

- 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

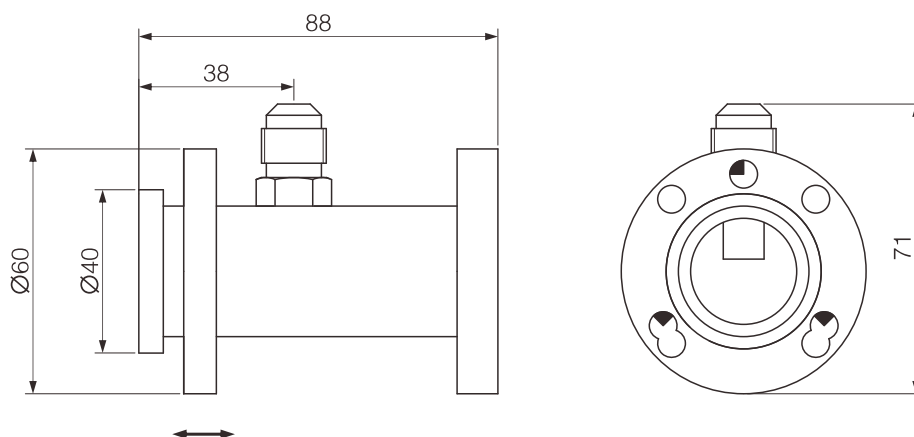


# FHQ 平衡器

## 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.

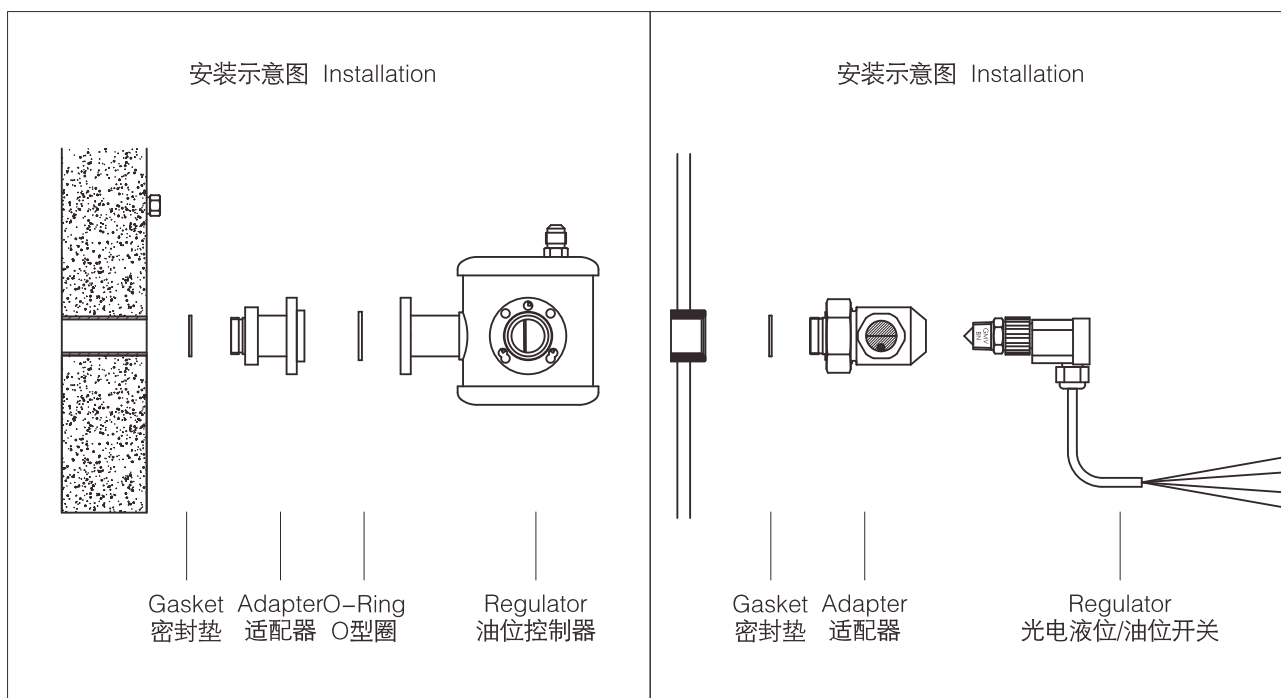


为了方便客户对压缩机视镜、储液器视镜和储油器视镜的不同形式应用，法斯克设计了多种连接形式的适配器。

In order to satisfy with customers' different applications to the oil sight glass of compressor and the sight glass of oil reservoir and liquid receiver, FASIKE design many kinds of adapter.

<p>FSP-01</p>	<p>FSP-02</p>	<p>FSP-03</p>
<p>FSP-04</p>	<p>FSP-05</p>	<p>FSP-06</p>
<p>FSP-07</p>	<p>FSP-08</p>	<p>FSP-09</p>

型号 Model	应用描述 Application Descriptor
FSP-01	富士豪 FRASCOLD(W), 比泽尔 BITZER ( 8GC、8FC )
FSP-02	比泽尔 BITZER ( 2KC…2CC、4FC…4CC ), 丹佛斯 DANFOSS ( MT、LT ), 博克 BOCK ( HA/HG12…36P )
FSP-03	DWM谷轮DWM COPELAND ( DK、DL、DN ), 谷轮COPELAND ( E、K、L、N )
FSP-04	开利CARRIER ( DA、DR、5F、5H、6D、6E ), 三洋SANYO ( 10HP、15HP )
FSP-05	谷轮涡旋式压缩机COPELAND SCROLL COMPRESSOR
FSP-06	谷轮涡旋式压缩机COPELAND SCROLL COMPRESSOR
FSP-07	谷轮涡旋式压缩机COPELAND SCROLL COMPRESSOR
FSP-08	光电式油位/液位开关, 涡旋式压缩机油平衡管连接 PHOTOELECTRIC OIL/LIQUID LEVEL SWITCH, SCROLL TYPE COMPRESSOR OIL BALANCE PIPE CONNECTION
FSP-09	光电式油位/液位开关, 涡旋式压缩机油平衡管连接 PHOTOELECTRIC OIL/LIQUID LEVEL SWITCH, SCROLL TYPE COMPRESSOR OIL BALANCE PIPE CONNECTION

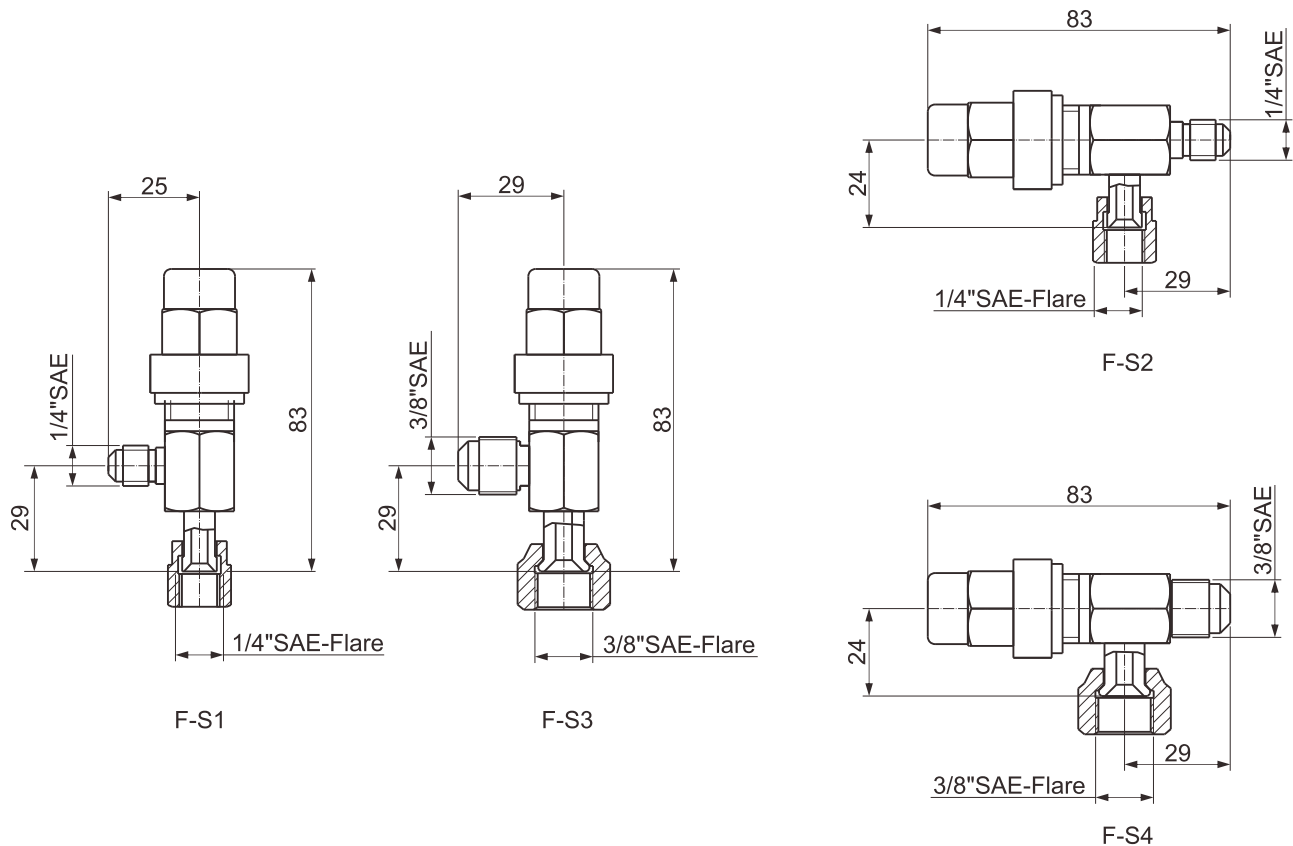


F-S系列油路截止阀可安装在油分离器回油接头、油位控制器回油接头和油位控制器油平衡接头上，还可以安装在FHQ平衡器和FOK油过滤器上。

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.



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

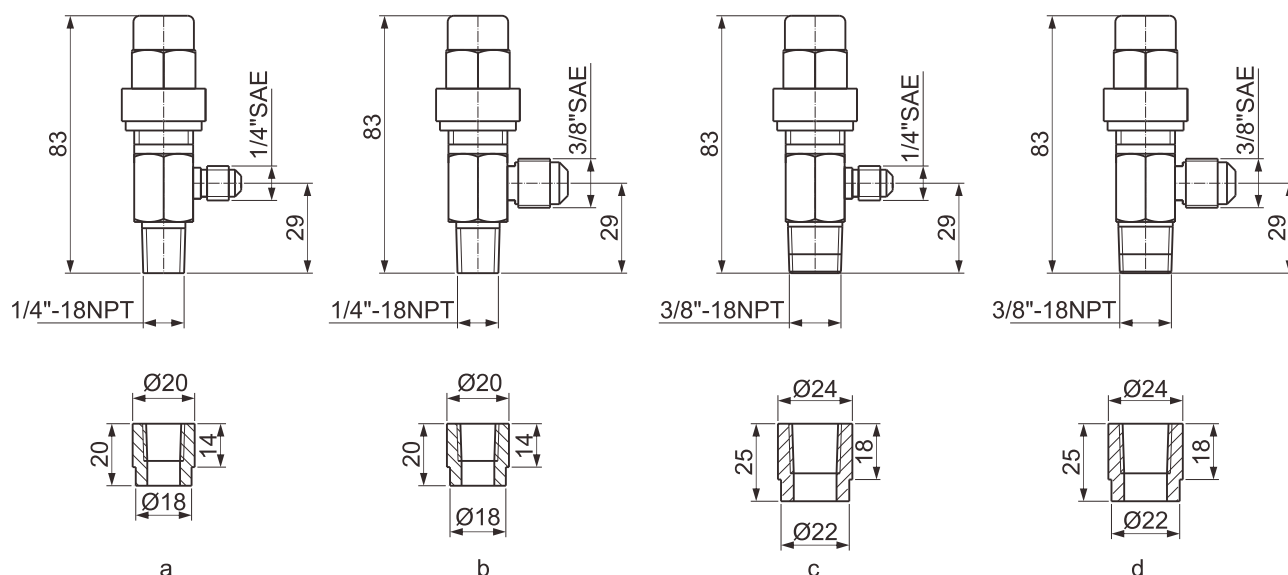


F-T系列检修阀安装在制冷压缩机吸气管路、排气管路和油管路上，通过它可以方便的检测每一段管道的压力。截止阀标配一个可以焊接在管路上的钢制NPT阀座（阴螺纹接头）。

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.



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。

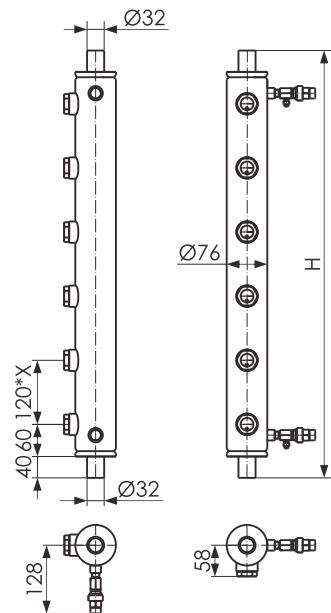
通过管路将液位计上接口和下接口与容器气相截止阀和液相截止阀连接，液位计可准确的显示容器内液面的位置。

- 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 and 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.

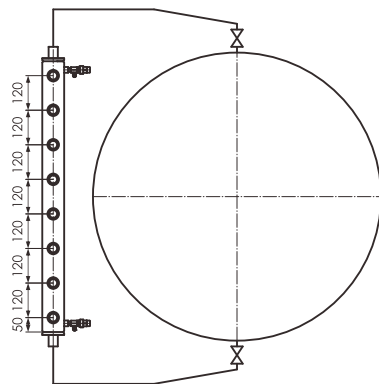
- The max. admissible operating pressure: 31bar;
- Admissible working temperature: +90℃ ~ -40℃;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



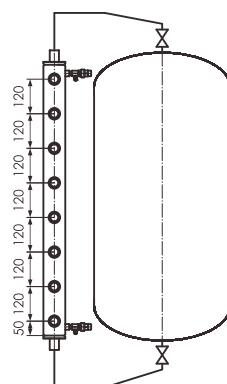
型号 Model	FYW-04(F50)	FYW-06(F50)	FYW-08(F50)	FYW-10(F50)	FYW-12(F50)	FYW-14(F50)	FYW-16(F50)
H (mm)	560	800	1040	1280	1520	1760	2000

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。

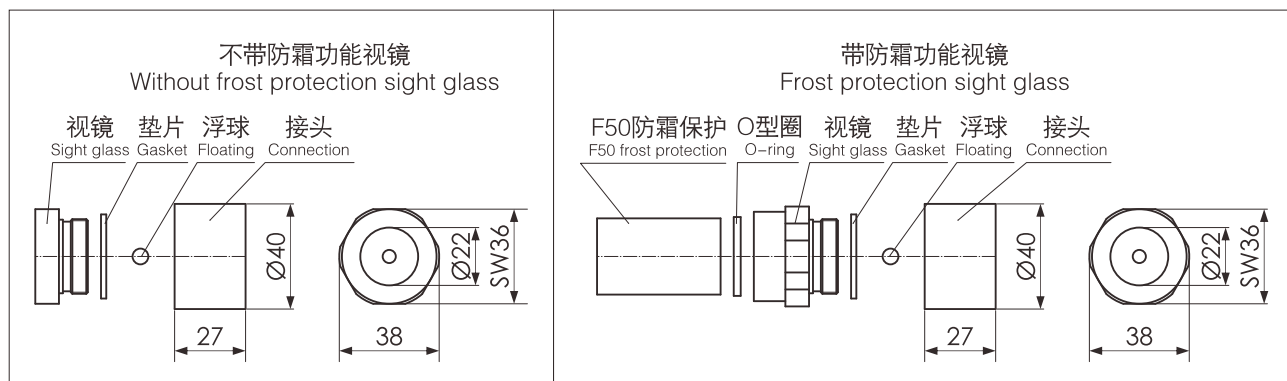
Remark: The product whose model with F50 is assembled with frost protection sight glass, it can be used for the vessel who uses the low temperature refrigerants.



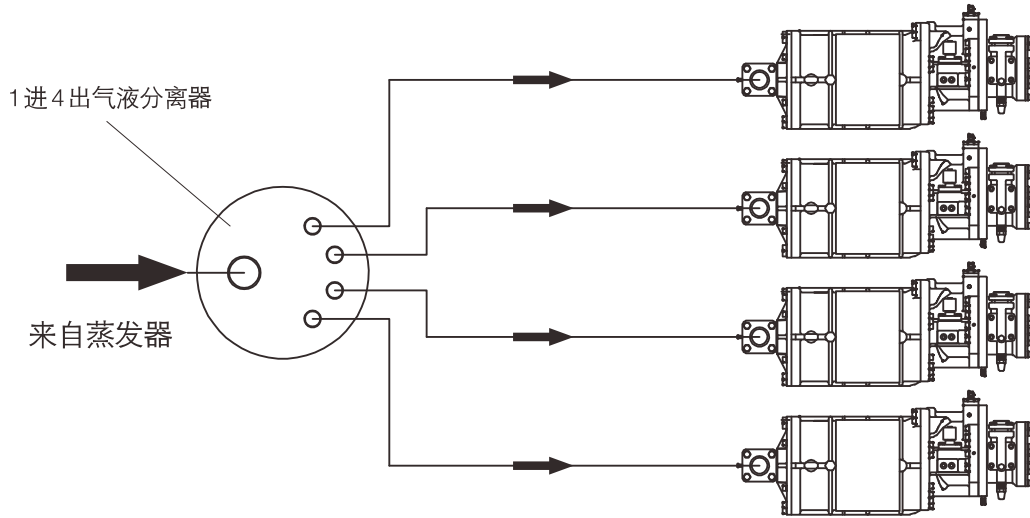
卧式容器 Horizontal Vessel



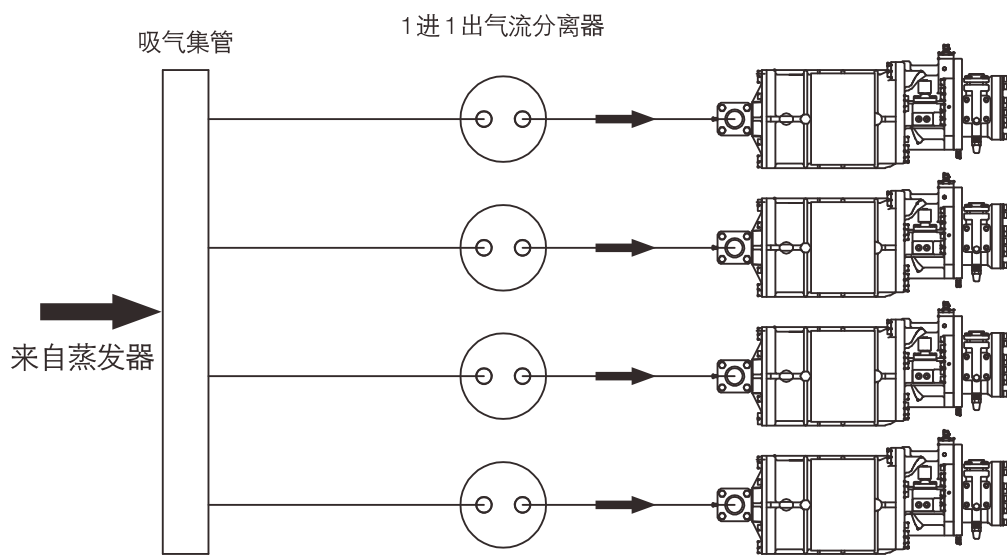
立式容器 Vertical Vessel



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。

一旦压缩机发生湿压缩（液击），压缩机极易损坏。

为此我们建议客户在下面的情况下在制冷装置中设计和安装气液分离器。

- ★ 压缩机并联；
- ★ 双级压缩制冷；
- ★ 满液式蒸发系统；
- ★ 热气溶霜系统；
- ★ 热泵系统；
- ★ 过热度小于7K系统。

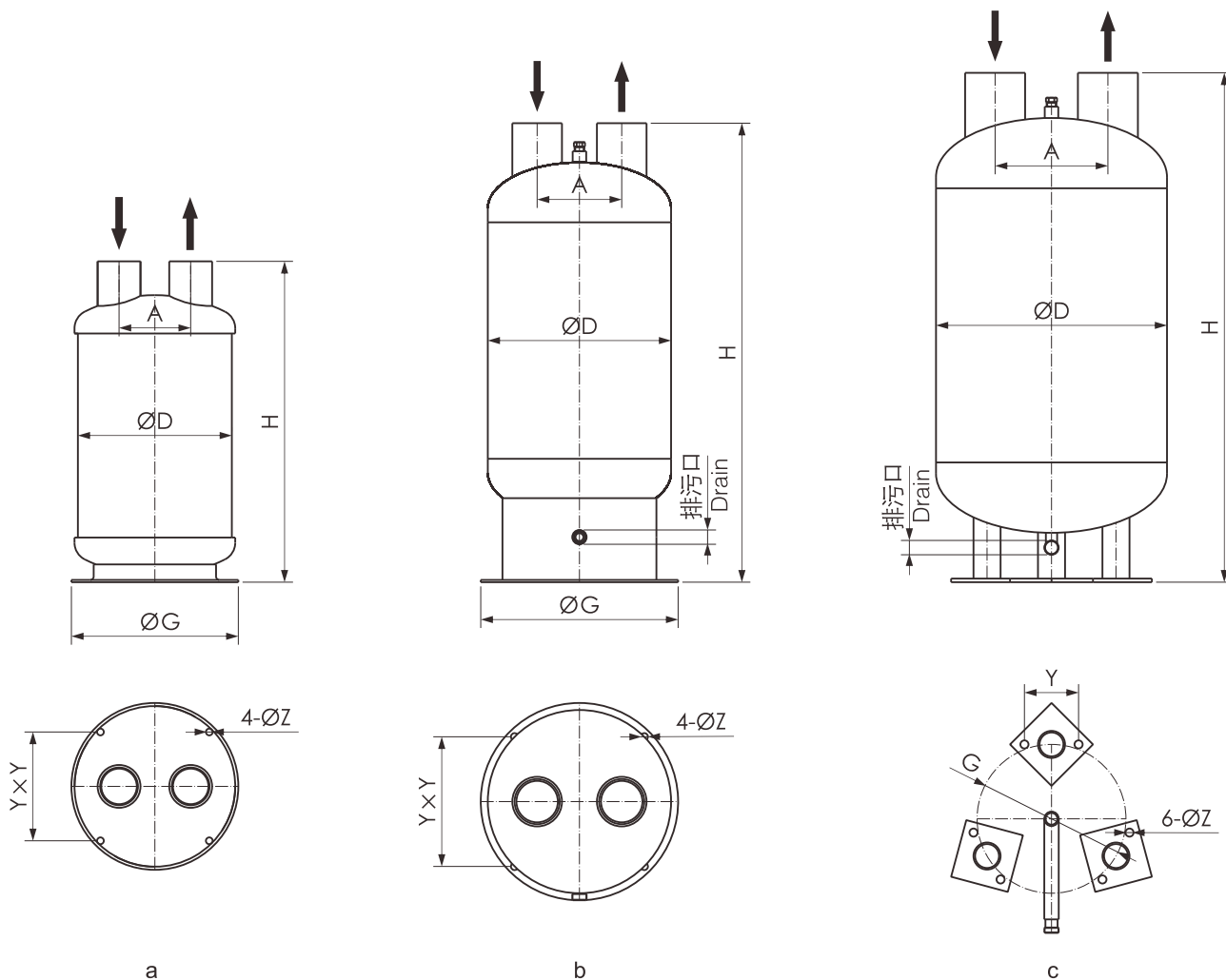
对于合理选择气液分离器，以下几点必须注意：

确定气液分离器容积和系统制冷剂充注量之间的关系，一般推荐气液分离器中能容纳50%~70%的系统中的制冷剂；

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。建议气液分离器U型垂直上升管内流速不要大于12 m/s，特别是低蒸发温度系统；

制冷机组若采用容量控制，应考虑吸气管流速。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）。多吸气管气液分离器安装在总吸气管之后，可以为每一台压缩机提供一个吸气接管，以保证每一台压缩机都能获得一个相同的流速。

- 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；
- 设计压力：1.7 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A；
- FA2-231、FA2-234、FA2-242、FA2-250、FA2-269 带有一个排污口和一个安全阀接口；
- 强烈推荐在蒸发温度低于-10℃的制冷装置中安装FAR或FHR。



Installing the accumulator in the refrigerating installation is to prevent the refrigerants without overheating in the evaporator into the compressor. It maybe results in the wet compression of compressor ( Slugging ) .

The reasons are caused by wet compression of compressor as below:

- ▲ Wrong installation of pipe line;
- ▲ Insufficient capacity in the evaporator;
- ▲ Wrong selection of expansion valve;
- ▲ Overfull charging volume of refrigerants;
- ▲ Overthick frost in the evaporator;
- ▲ Out-of-operation in the fan of evaporator;
- ▲ Suction pipe is not to have enough insulation and the environmental temperature is much lower.

Even the compressors happen the circumstance of wet compression ( Slugging ) , the compressor is easily damaged. Therefore we suggest that the customers will design and install the accumulator in the refrigerating installation when they find these conditions as below:

- ★ parallel connection compressor;
- ★ twin-stage compression refrigeration;
- ★ flooded type evaporator system;
- ★ defrosting system by superheated vapour;
- ★ heat pump system;
- ★ the system with the degree of superheat is lower than 7K.

Regarding the proper selection for the accumulator, pay attention to the several ponits as below:

Confirm the relation between the accumulator

capacity and the charge amount of refrigerants in the system. We usually recommend the 50% ~ 70% refrigerants in the accumulator system;

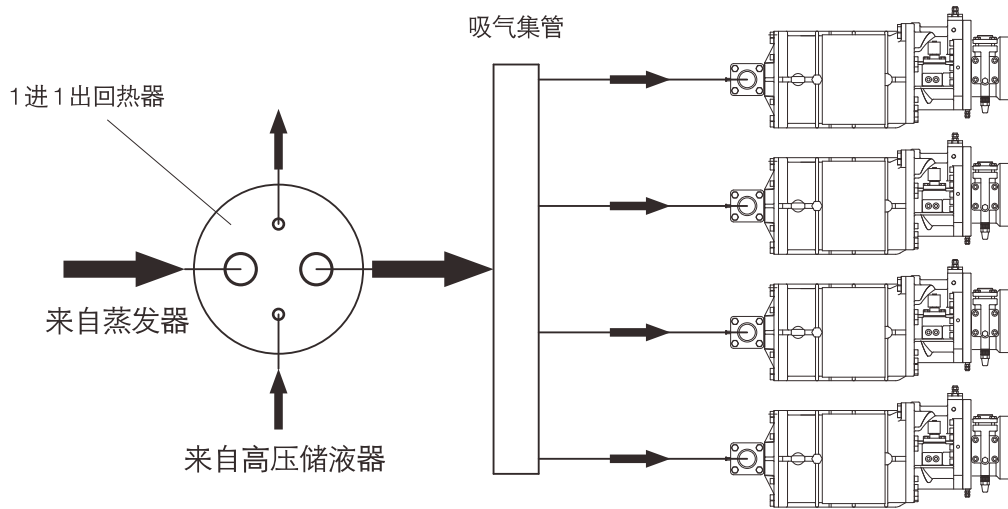
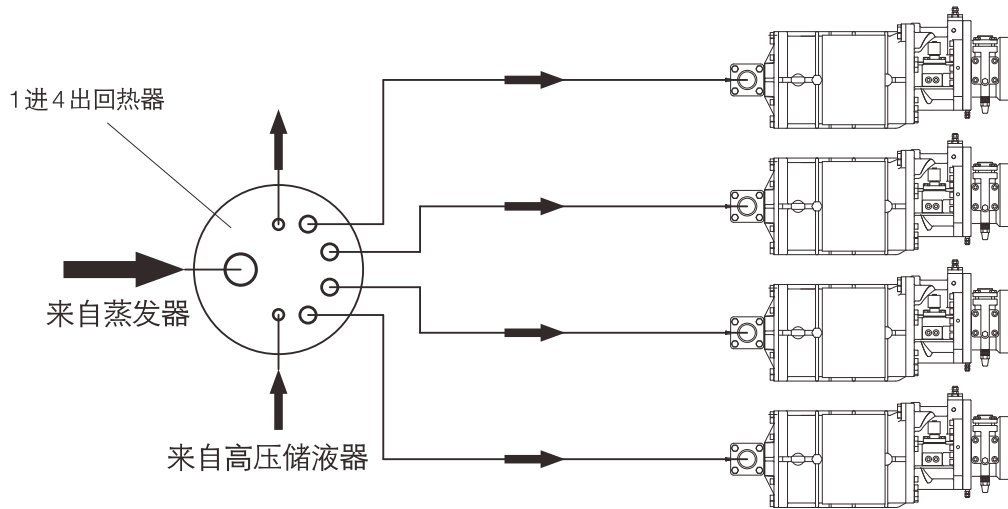
The velocity of flow of the U type vertical rising should not be lower than 7.5 m/s in order to make sure the favourable oil return. We suggest that the velocity of flow of the U type vertical rising should not be higher than 12 m/s, especially the low temperature evaporator system;

If the refrigerating unit is applied to the capacity control, the velocity of flow of suction pipe should be considered. Regarding the parallel compressor unit, please choose the multiple suction pipe accumulator (if you require the further information, please contact with O&F technical department). The multiple suction pipe accumulator is installed behind the general suction pipe. It can offer one suction pipe for each compressor in order to make sure the same velocity of flow is required from each compressor.

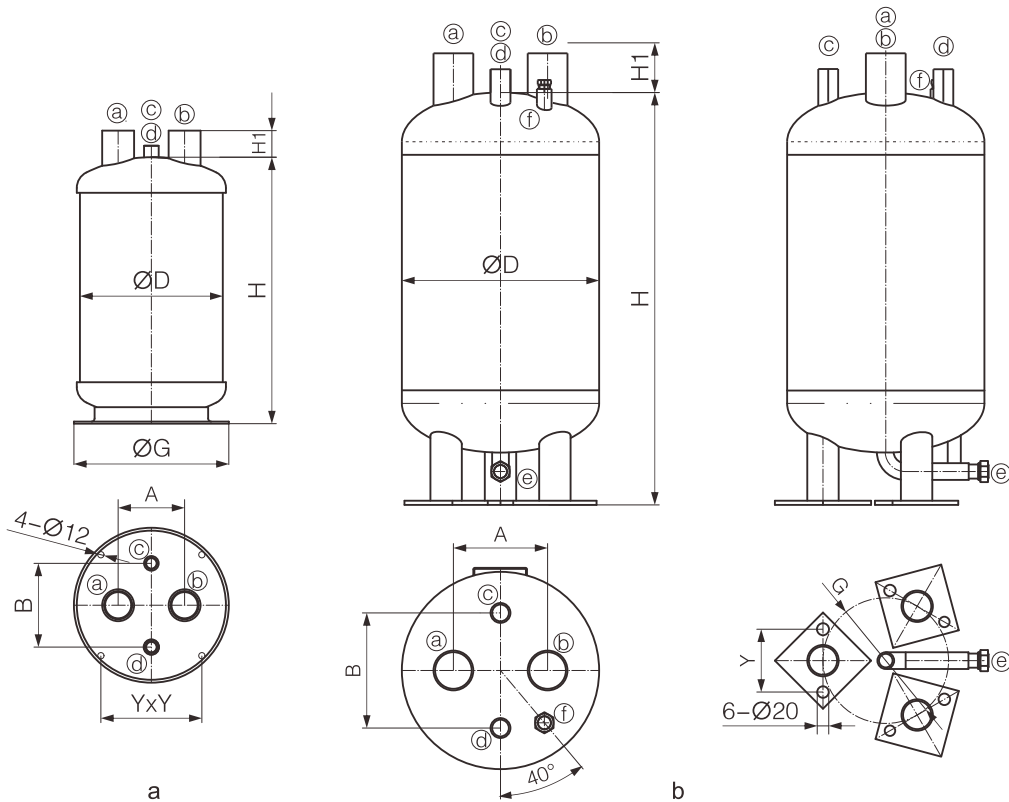
- Installation method: Vertical installation;
- The accumulator is installed closing to the suction pipe of compressor;
- The design pressure: 1.7MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- FA2-231、FA2-234、FA2-242、FA2-250、FA2-269 has drain and a Conn.for safety valve;
- The FAR or FHR must be intensively installed in the refrigerating installation of which the evaporator temperature is lower than -10°C.

型号 Model	ODS接口铜管 (inch)	对焊接口钢管 (mm)	ØD (mm)	H (mm)	A (mm)	ØG (mm)	Y (mm)	ØZ (mm)	容积 Volume (l)	安全阀口规格 Conn.for safety	图例 Fig.
FA2-204	1/2"	-----	102	263	54	140	86	8.5	1.6	-----	a
FA2-205	5/8"	-----	102	338	54	140	86	8.5	2	-----	a
FA2-206	3/4"	-----	140	344	80	160	96	9	4	-----	a
FA2-207	7/8"	Ø25×2.5	140	414	81	160	96	9	5	-----	a
FA2-208	1-1/8"	Ø32×3.0	165	486	79	190	120	9	8	-----	a
FA2-209	1-3/8"	Ø38×3.0	165	601	83	190	120	9	10	-----	a
FA2-210	1-5/8"	Ø45×3.0	219	552	110	250	155	12	16	-----	a
FA2-221	2-1/8"	Ø57×3.5	273	560	127	296	193	12	24	-----	a
FA2-225	2-5/8"	Ø76×4.0	273	669	127	296	193	12	29.5	-----	a
FA2-231	3"	Ø89×4.0	325	814	150	350	230	13	43	1/2" NPT	b
FA2-234	-----	Ø108×4.0	412	907	190	440	290	14	80	1/2" NPT	b
FA2-242	-----	Ø133×4.0	512	1129	250	330	120	18	162	1/2" NPT	c
FA2-250	-----	Ø159×4.5	712	1642	320	460	135	20	450	3/4" NPT	c
FA2-269	-----	Ø219×6.0	916	1906	420	580	160	20	900	3/4" NPT	c

### 回热器的安装



- 适用于蒸发温度低于  $-15^{\circ}\text{C}$  的制冷装置；
  - 强大的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过冷（焓值增加、避免出现闪发气体），可以有效提高制冷效率；
  - 设计压力：气管 1.7 MPa，液管 2.9 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。
- It can be used for the refrigeration equipment which evaporate temperature is lower than  $-15^{\circ}\text{C}$ ;
  - It has strong separate and heat exchange capability, and will avoid the non-overheat wet evaporate entering into the compressor;
  - The refrigerant will be supercooling before it enters into the thermostatic expansion valve (the enthalpy is increased and it can avoid flash gas), so the work efficiency will be improved greatly;
  - Design pressure: Suction pipe—1.7 MPa; Liquid pipe—2.9 MPa;
  - Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
  - Connector application: (a)gas inlet, (b)gas outlet, (c)liquid inlet, (d)liquid outlet, (e)drain outlet, (f)Conn. for safety valve.



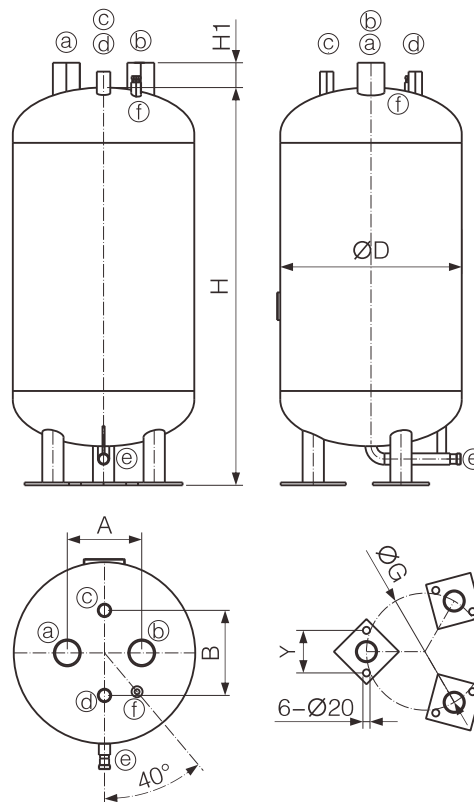
型号 Model	气管 Suction Pipe	液管 Liquid Pipe	ØD (mm)	H (mm)	H1 (mm)	A (mm)	B (mm)	Y (mm)	ØG (mm)	容积 Volume (l)	换热面积 ( $\text{m}^2$ )	图例 Fig.
FAR-50	2-1/8" ODS	7/8" ODS	Ø273	509	51	127	160	193	296	24	0.40	a
FAR-65	Ø76 × 4.0	Ø38 × 3.0	Ø377	788	95	180	220	120	240	65	0.66	b
FAR-80	Ø89 × 4.0	Ø45 × 3.0	Ø462	940	79	220	260	120	300	120	1.09	b
FAR-100	Ø108 × 4.0	Ø45 × 3.0	Ø562	1110	100	280	300	135	360	213	1.63	b
FAR-125	Ø133 × 4.0	Ø57 × 3.5	Ø612	1240	99	320	360	135	400	282	2.26	b

FHR系列低压储液回热器是为速冻机、速冻库和排管蒸发器的制冷装置等制冷剂充注量较大的系统设计的。

- 低压储液容积大，可以储存一定量未过热的制冷剂；
- 高效的热交换结构，容器内部的热交换管采用内/外螺纹高效紫铜管，具有强大的冷热交换能力。用从高压储液器供液管流入的制冷剂，与未过热的制冷剂进行热交换，制冷剂得到有效地过热的后返回压缩机；
- 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（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；
- 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；
- 设计压力：1.7 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。

FHR Series low pressure liquid regenerator is designed for the systems who will be filled with large amount refrigerants, such as instant freezer、frozen storage and cooling grid.

- Large low pressure liquid storage volume, and it can store some non-overheat refrigerant;
- Efficient heat exchange structure, the inside heat exchange tube is high efficient copper tube who has internal and external thread., so it has strong heat exchange capability. The refrigerant from the liquid line of high pressure liquid receiver will make the heat exchange with the non-overheat refrigerant, and then the refrigerant will go back to the compressor after efficient overheat;
- Energy efficient design, it can make the high pressure liquid refrigerant to be supercooling before it enters into the thermostatic expansion valve (the enthalpy is increased and it can avoid flash gas), so the work efficiency of compressor can be improved greatly;
- 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;
- Design pressure: 1.7 MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
- Connector application: (a)gas inlet,(b)gas outlet,(c)liquid inlet,(d)liquid outlet,(e)drain outlet,(f)Conn. 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 <sup>2</sup> )
FHR-180	Ø76	Ø38	512	1122	70	210	250	120	330	180	1.17
FHR-245	Ø89	Ø45	562	1246	75	280	300	135	360	245	1.76
FHR-320	Ø108	Ø45	612	1356	100	308	300	135	400	320	2.20
FHR-467	Ø133	Ø57	712	1480	120	320	430	135	460	467	3.48
FHR-670	Ø159	Ø57	812	1652	180	432	460	160	520	670	4.13
FHR-1000	Ø219	Ø76	912	1882	180	414	560	160	580	1000	8.52



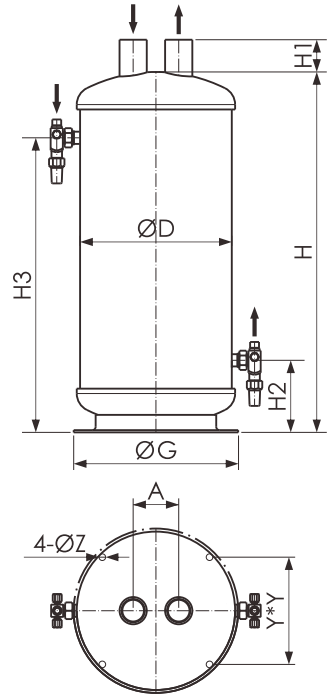
FAH系列三器一体器，是一款经济节能产品。

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。利用回到容器内侧面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。

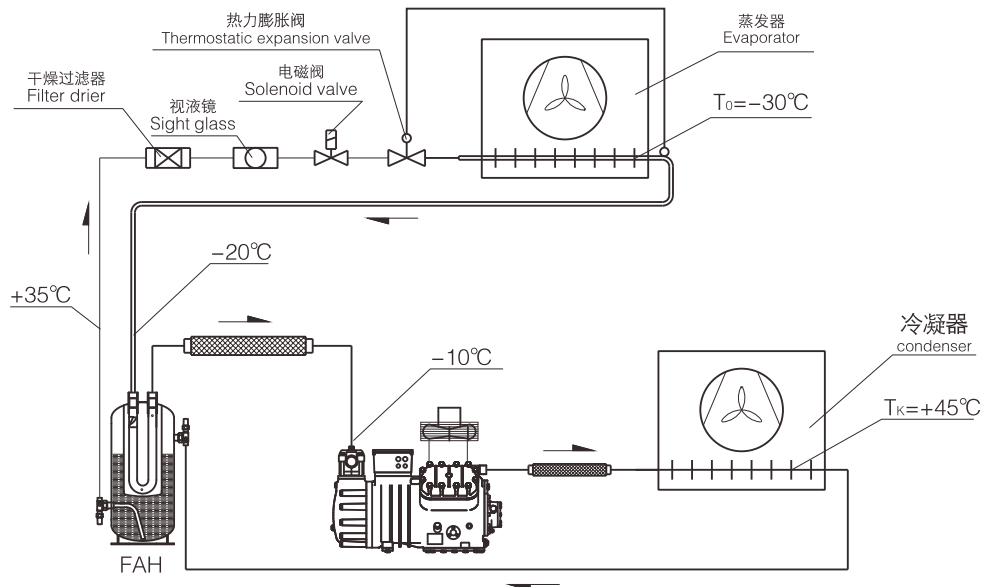
- 安装方法：垂直安装；
- 建议将容器和供液管路做绝热处理；
- 低压侧设计压力：1.7 MPa；
- 高压侧设计压力：2.9 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

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"	17	23	325	632	46	179	464	127	230	350	13



FAH应用示意图 FAH Application Diagrammatic Map

储液器容积 Liquid Receiver Volume ( l )	制冷量 Refrigerating Capacity ( KW )		
	蒸发温度 Evaporation Temp: -10°C	蒸发温度 Evaporation Temp: -25°C	蒸发温度 Evaporation Temp: -40°C
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。

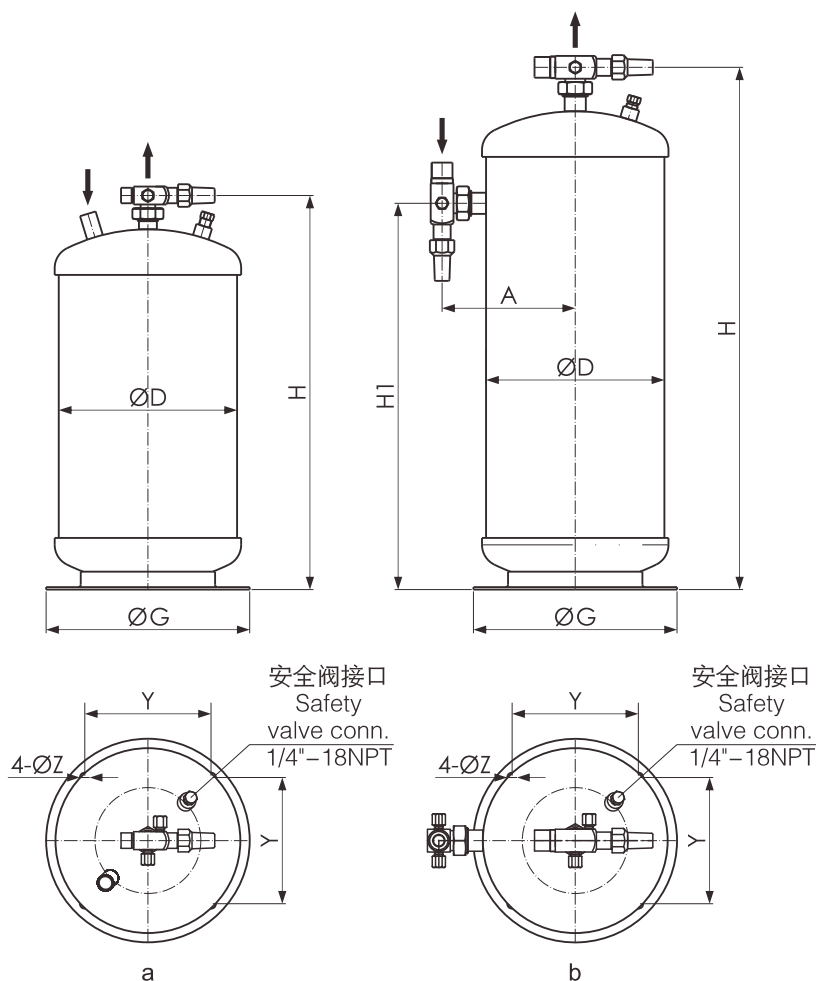
- 1、The data above is based on the use of R22 ( The ceiling type air cooler is used as the evaporator of the refrigerant vessel ) , R404A/R507A ( R22 data × 1.4 ) , R134a ( R22 data × 1.1 ) ;
- 2、For the system with long pipe and a refrigerating vessel pipe evaporator should be based on the situation 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.

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.



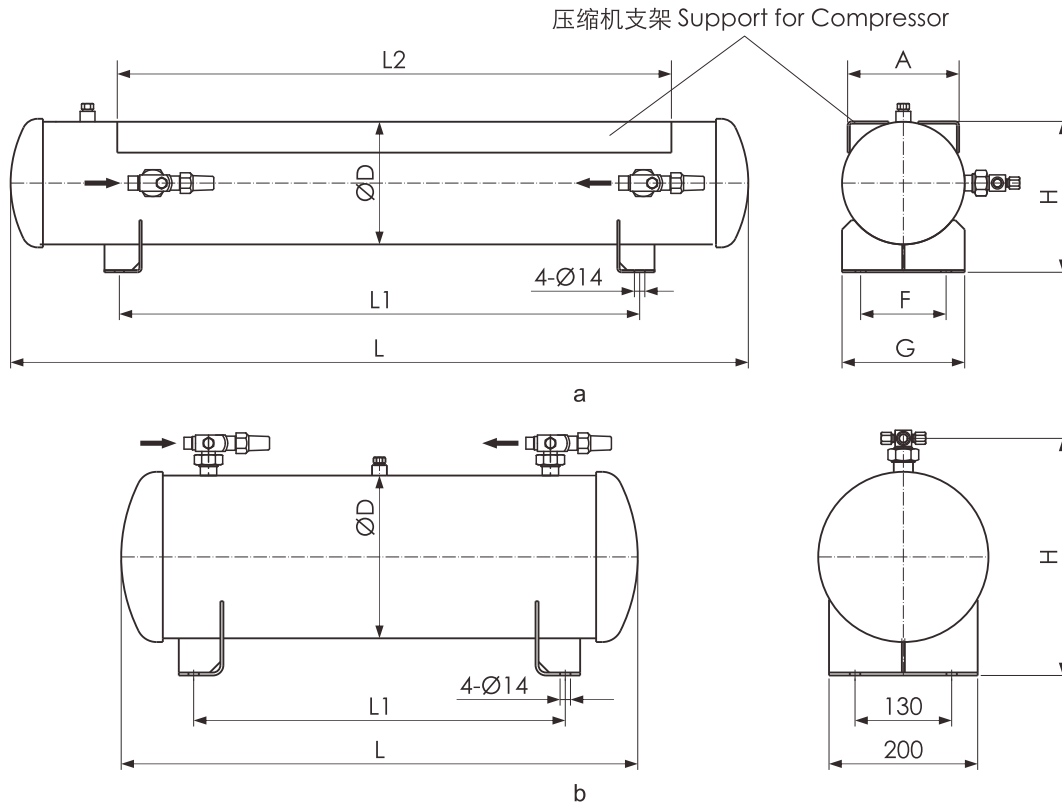
型号 Model	ØD (mm)	H (mm)	H1 (mm)	A (mm)	ØG (mm)	Y (mm)	ØZ (mm)	进口 Inlet (ODF)	出口 Outlet (ODF)	容积 Volume (l)	图例 Fig.
L-4	165	290	---	---	190	120	9.0	3/8"	3/8"	4	a
L-6	165	390	---	---	190	120	9.0	1/2"	1/2"	6	a
L-8	165	490	---	---	190	120	9.0	1/2"	1/2"	8	a
L-10	219	369	---	---	250	155	12	5/8"	5/8"	10	a
L-12	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。

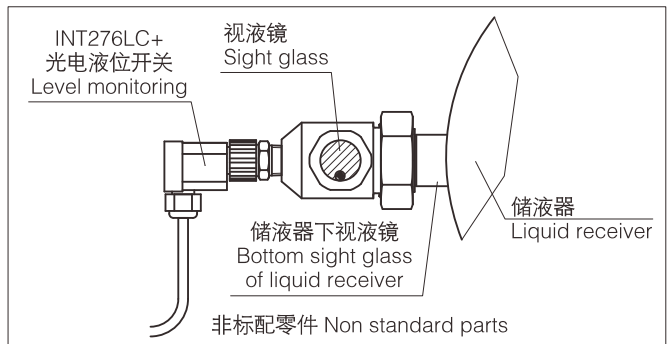
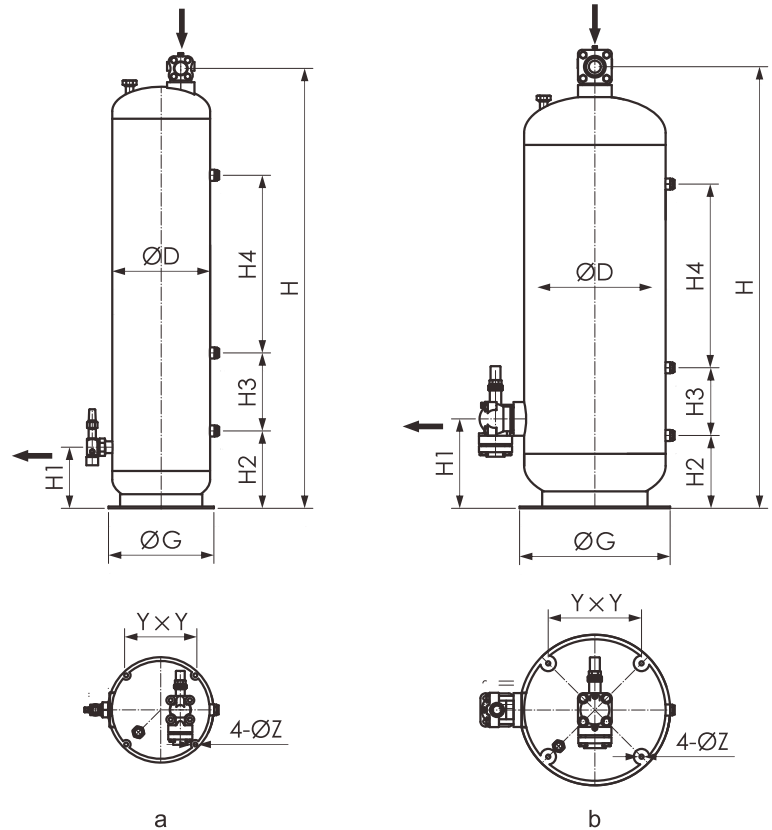
The inlet and outlet of W series horizontal liquid receiver are assembled with cut-off valves. All the models are designed with 1/4"-18NPT safety valve connection.

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



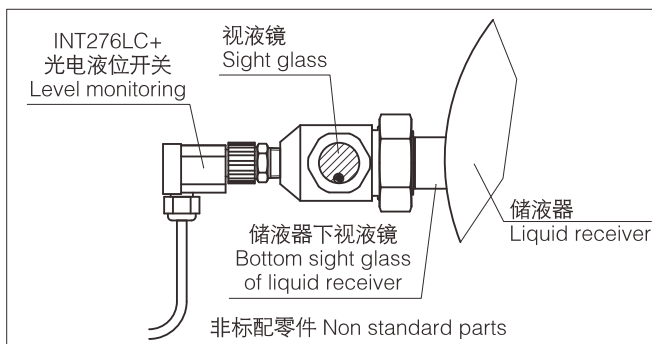
型号 Model	ØD (mm)	L (mm)	L1 (mm)	L2 (mm)	H (mm)	A (mm)	G (mm)	F (mm)	进口 Inlet (ODF)	出口 Outlet (ODF)	容积 Volume (l)	图例 Fig.
W-14	165	743	460	496	203	150	165	115	1/2"	1/2"	14	a
W-16	165	843	640	596	203	150	165	115	5/8"	5/8"	16	a
W-19	165	993	700	746	203	150	165	115	5/8"	5/8"	19	a
W-23	165	1203	945	956	203	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.

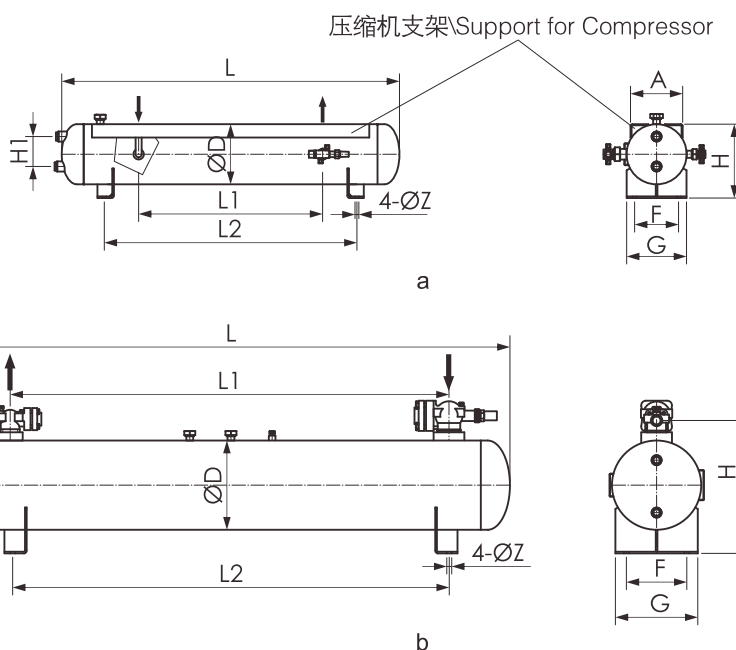


型号 Model	ØD (mm)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	Y (mm)	ØG (mm)	ØZ (mm)	进口 Inlet (Inch)	出口 Outlet (Inch)	容积 Volume (l)	图例 Fig.
E1L-40L	219	1256	159	163	259	525	155	250	12	1-1/8"	7/8"	40	a
E1L-60L	273	1233	179	179	242	520	193	296	12	1-3/8"	1-1/8"	60	a
E1L-80L	325	1202	203	199	317	330	230	350	13	1-5/8"	1-3/8"	80	a
E1L-100L	325	1462	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	1467	297	245	230	600	327	490	14	2-5/8"	2-1/8"	200	b
E1L-250L	512	1494	305	251	233	616	360	540	18	2-5/8"	2-1/8"	250	b
E1L-300L	562	1502	390	262	237	600	390	590	18	3-1/8"	2-5/8"	300	b
E1L-500L	612	2011	406	279	237	975	425	640	18	3-1/8"	2-5/8"	500	b

- 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.



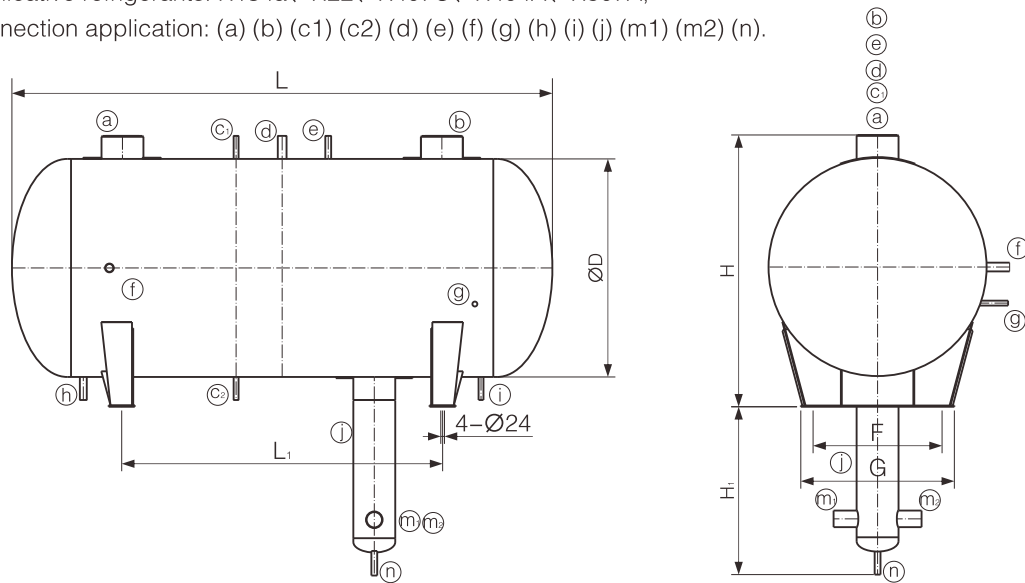
型号 Model	ØD (mm)	L (mm)	L1 (mm)	L2 (mm)	H (mm)	H1 (mm)	A (mm)	G (mm)	F (mm)	ØZ (mm)	进口 Inlet (Inch)	出口 Outlet (Inch)	容积 Volume (l)	图例 Fig.
E2W-40L	219	1230	670	920	299	130	190	210	140	20	1-1/8"	7/8"	40	a
E2W-60L	273	1171	560	810	353	162	239	260	180	20	1-3/8"	1-1/8"	60	a
E2W-80L	273	1546	1200	1185	419	162	-	260	180	20	1-3/8"	1-1/8"	80	b
E2W-100L	325	1382	965	940	472	190	-	300	210	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	613	250	-	380	260	20	2-5/8"	2-1/8"	200	b
E2W-250L	412	2072	1546	1540	613	250	-	380	260	20	2-5/8"	2-1/8"	250	b
E2W-300L	462	1976	1398	1500	686	316	-	420	290	20	3-1/8"	2-5/8"	300	b
E2W-500L	562	2220	1588	1500	786	360	-	510	360	20	3-1/8"	2-5/8"	500	b
E2W-800L	716	2246	1490	1530	957	400	-	640	460	20	3-1/8"	2-5/8"	800	b

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 <sup>3</sup> )	总容积 Total Vol. (m <sup>3</sup> )	处理量 Handling capacity (m <sup>3</sup> /h)
FNW-1.5	1000	2096	1030	1366	1080	600	760	0.44	1.5	779
FNW-2.0*	1000	2730	1660	1366	1080	600	760	0.58	2.0	779
FNW-2.5	1200	2398	1180	1566	1080	720	880	0.73	2.5	1150
FNW-3.0*	1200	2866	1620	1566	1080	720	880	0.87	3.0	1150
FNW-4.0	1400	2800	1370	1770	1093	840	1000	1.16	4.0	1566
FNW-5.0*	1400	3520	2090	1770	1093	840	1000	1.45	5.0	1566
FNW-6.0	1600	3220	1600	1970	1093	960	1120	1.74	6.0	2045
FNW-7.0*	1600	3770	2150	1970	1093	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
c1	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
c2	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	Ø38 × 3.0	Ø38 × 3.0	Ø38 × 3.0	Ø38 × 3.0	Ø38 × 3.0	Ø38 × 3.0
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 controlled 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
m1	液出口 Liquid outlet	Ø89 × 4.0	Ø89 × 4.0	Ø108 × 4.0	Ø108 × 4.0	Ø133 × 4.0	Ø133 × 4.0
m2	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	Ø38 × 3.0	Ø38 × 3.0	Ø38 × 3.0	Ø38 × 3.0	Ø38 × 3.0	Ø38 × 3.0

**备注:**

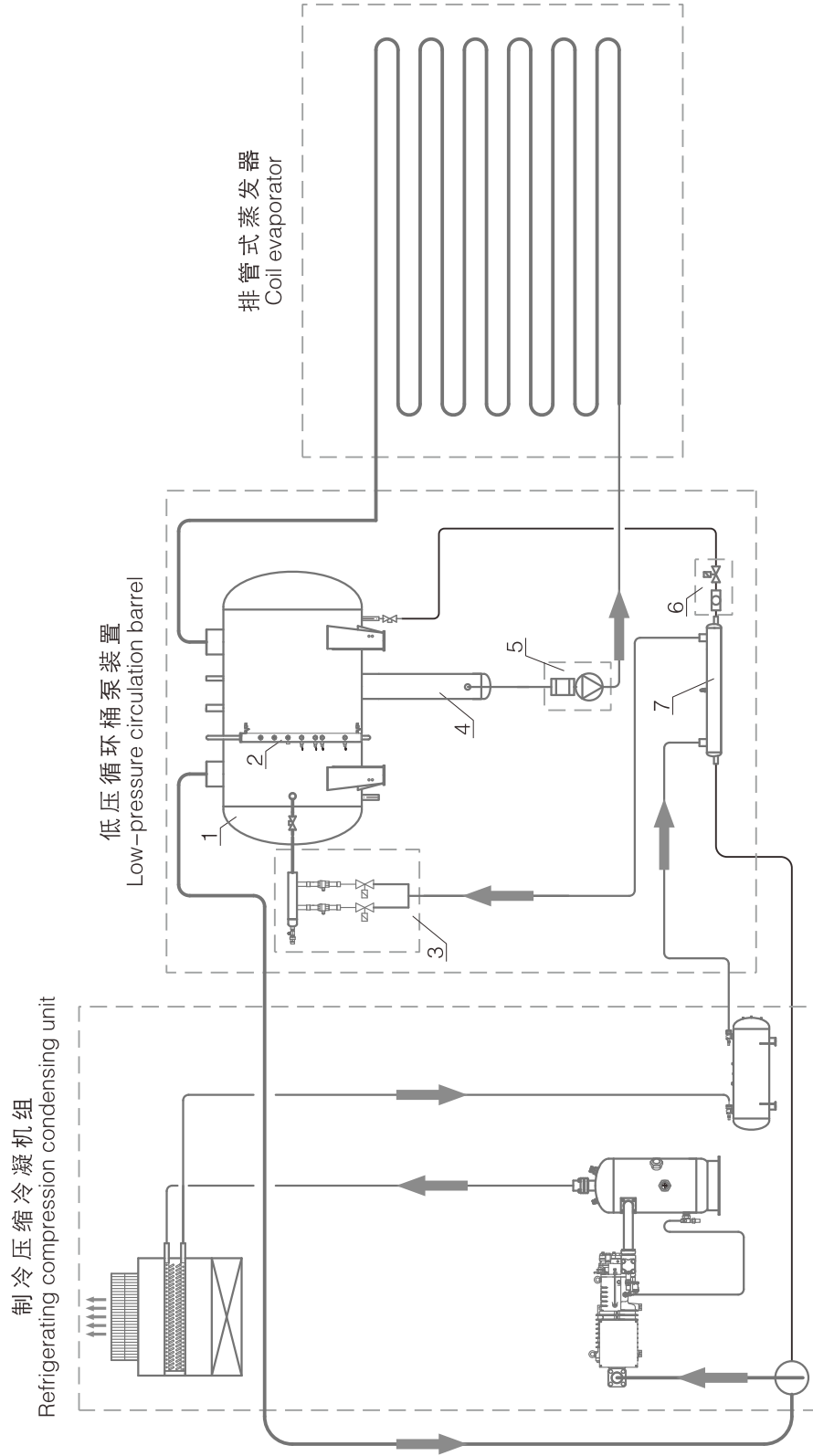
1. 处理量: R22制冷剂 (如使用其他制冷剂请与O&F技术部联系) 在+40℃冷凝温度允许压缩机最大理论排量VH ( m<sup>3</sup>/h )
2. 不带“\*”的氟用低压循环桶: 适用于①不采用热氟融霜的冷库②使用水融霜冷风机作为蒸发器的冷库③速冻机
3. 带“\*”的氟用低压循环桶: 适用于①采用热氟融霜的冷库②使用热氟融霜冷风机作为蒸发器的冷库③速冻库

**Remark:**

1. Handling capacity: With refrigerant R22 (if you would like to use other kinds of refrigerants, please contact with O&F technology department) and at +40℃ condensing temperature, the max.theoretical displacement VH ( m<sup>3</sup>/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**  
Fluorine Pump Feed Liquid Refrigeration System



- 1、 氟泵供液制冷系统
- 2、 光电液位显示器
- 3、 变流量节流装置
- 4、 集液管
- 5、 氟泵
- 6、 脉冲式回油电磁阀
- 7、 回油热交换器

FYK系列光电液位显示控制器壳体使用坚固的无缝钢管制作，装有带红色浮球的防霜视镜，即使在-40℃液体温度下工作，也可以清晰地观察到容器内部的液位。FYK气相和液相各装有一个检修阀。

通过管路将光电液位显示控制器上接口和下接口与容器气相截止阀和液相截止阀连接，FYK可准确的显示和控制容器内液位。

FYK系列光电液位显示控制器标配：

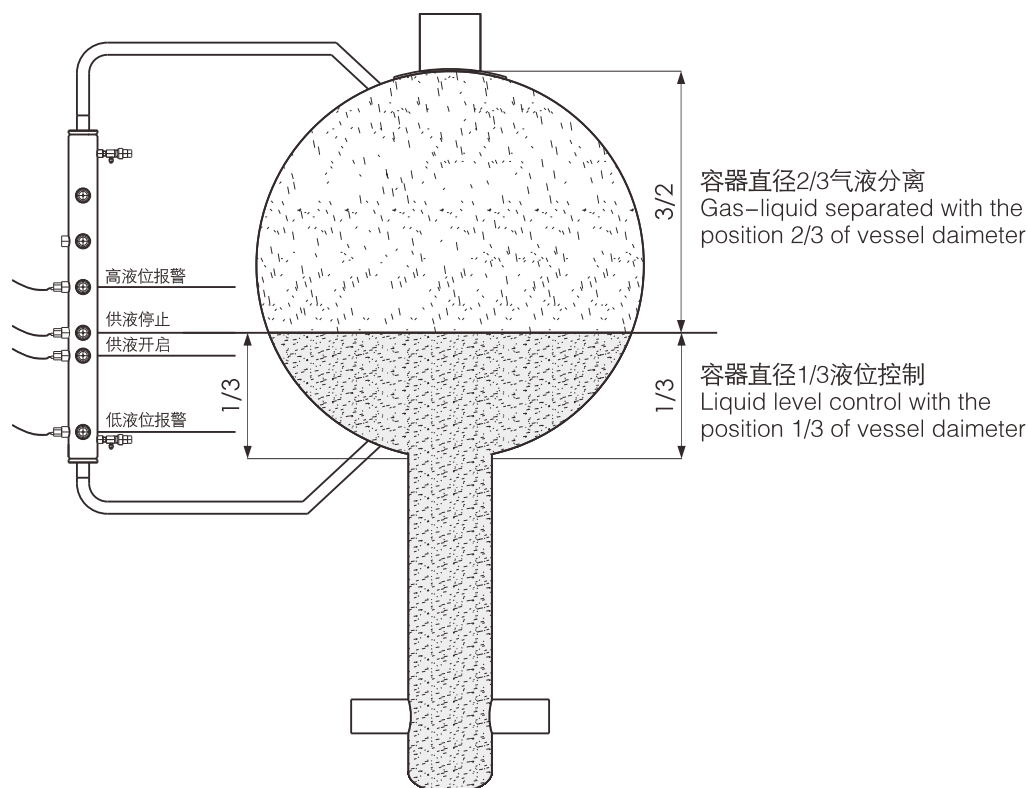
- ★ 供液开启光电开关1只；
- ★ 供液关闭光电开关1只；
- ★ 高液位报警光电开关1只；
- ★ 低液位报警光电开关1只；
- 最大许可工作压力：3.1MPa
- 许可工作温度：+120℃ ~ -40℃；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

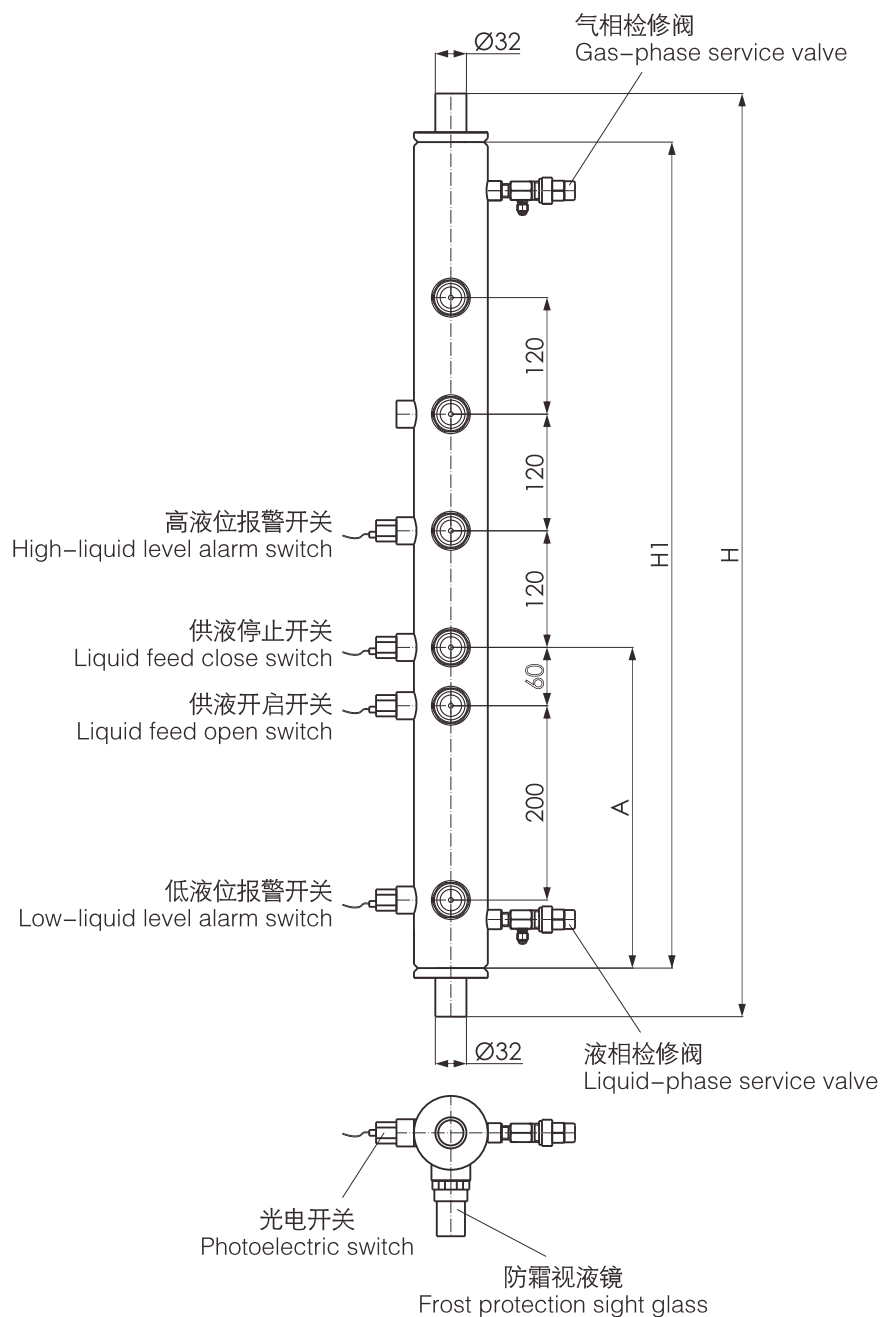
The shell body of FYK series photoelectric liquid level display controller is made by seamless steel tube. And it is assembled with frost protection sight glass who has red float inside. You can observe the inside liquid level clearly even though it works under -40℃. The gas-phase and liquid-phase of FYK is assembled with service valve.

Connecting the upper and lower connection of photoelectric liquid level display controller to the service valves of gas-phase and liquid-phase of the pressure vessel, FYK can show and control the liquid level inside of the pressure vessel correctly.

The standard configuration of FYK series photoelectric liquid level display controller:

- ★ 1 piece of liquid feed open photoelectric switch;
- ★ 1 piece of liquid feed close photoelectric switch;
- ★ 1 piece of high-liquid level alarm photoelectric switch;
- ★ 1 piece of low-liquid level alarm photoelectric switch;
- Max. acceptable working pressure: 3.1MPa;
- Acceptable working temperature: +120℃ ~ -40℃;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.





型号 Model	FYK-1000	FYK-1200	FYK-1400	FYK-1600	FYK-1800	FYK-2000
推荐配套容器直径 Recommended diameter of configured vessel (mm)	1000~1100	1200~1300	1400~1500	1600~1700	1800~1900	2000~2100
H (mm)	950	1150	1350	1550	1750	1950
H1 (mm)	850	1050	1250	1450	1650	1850
A (mm)	330	400	460	530	600	670

重沸满液式蒸发器是由低压循环桶和蒸发盘管两部分组成，通过控制低温制冷剂的液位，使蒸发盘管完全浸泡在低温制冷剂中，以冷却载冷剂（氯化钙水溶液、乙二醇...）。

- 设计压力：1.7 MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

Reboil Flooded Evaporator is composed of Low-pressure circulation barrel and evaporating coiled tube. It can

make the evaporating coiled tube to be dipped into the low-temperature refrigerant completely by control the liquid level of low-temperature refrigerant, and so that the refrigerating medium (calcium chloride aqueous solution and ethanediol and so on) to be cooled.

- Design pressure: 1.7 MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.

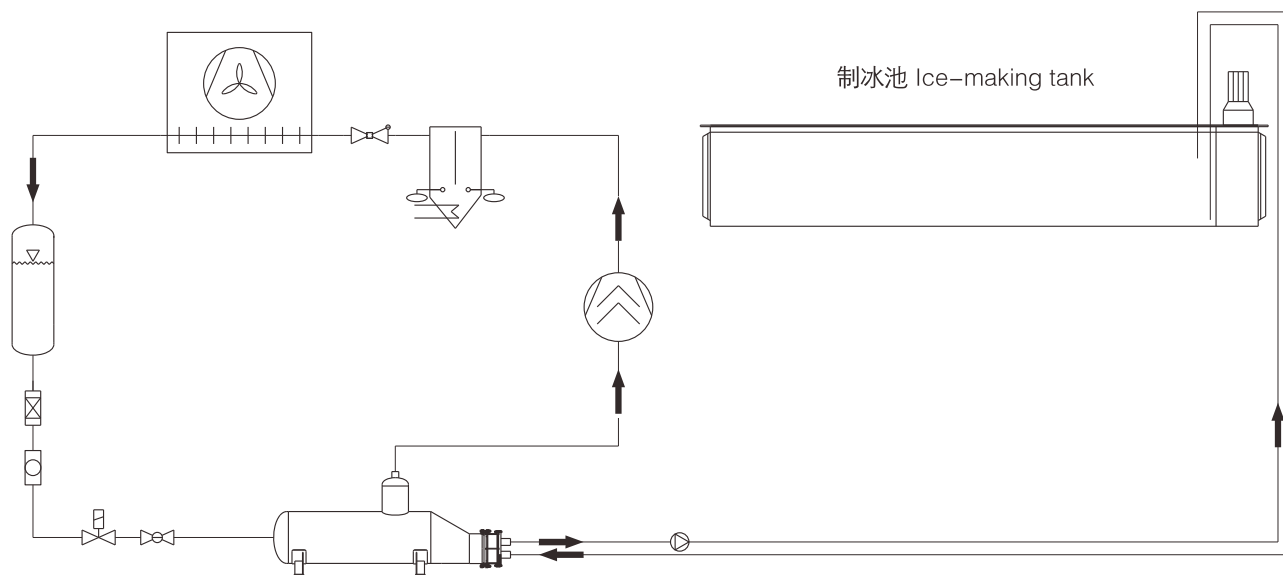
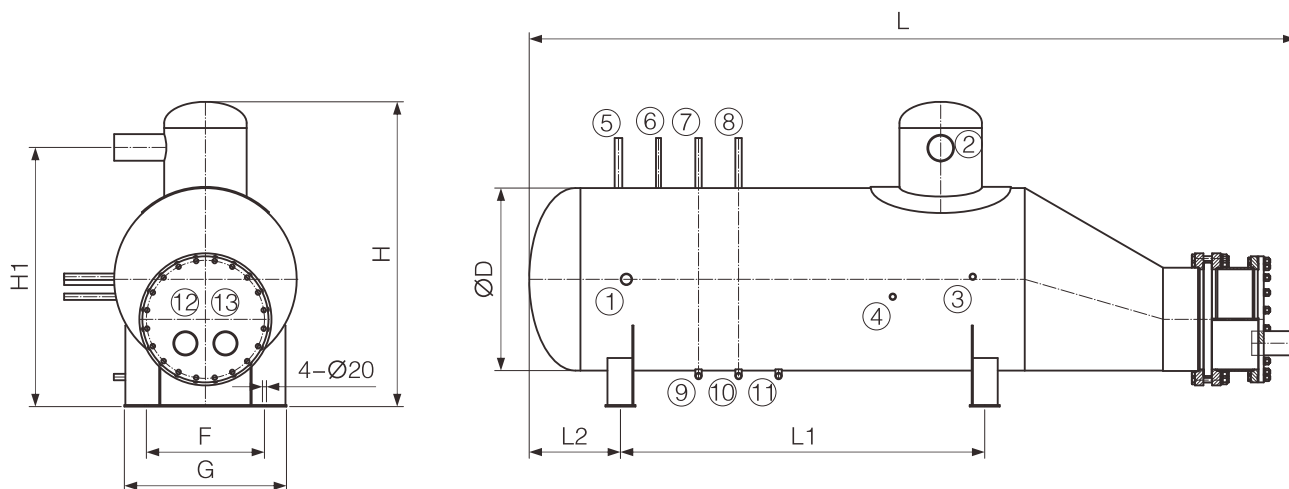
	FWZ-DN350	FWZ-DN400	FWZ-DN450	FWZ-DN500
ØD	562	712	812	912
L	2756	3125	3713	3830
L1	1410	1490	1900	1820
L2	309	381	406	456
H	1050	1268	1382	1493
H1	887	1088	1178	1265
F	360	430	530	590
G	510	590	720	810
技术数据 Technical Datas				
名义换热量 (KW) Nominal heat exchange (KW)	61.5	116	178	232
载冷剂流量 (m³/h) Flow rate of refrigerating medium (m³/h)	21	33	42	54
制冷剂充注量 (L) Refrigerants incharging volume(L)	177	300	473	641
接口尺寸 Connection Size				
1、制冷剂进口 Refrigerant Inlet	Ø38 × 3.0	Ø38 × 3.0	Ø38 × 3.0	Ø38 × 3.0
2、制冷剂出口 Refrigerant Outlet	Ø76 × 4.0	Ø89 × 4.0	Ø108 × 4.5	Ø133 × 5.0
3、高液位控制口 High liquid level control conn.	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0
4、低液位控制口 Low liquid level control conn.	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0
5、安全阀口 Safety valve conn.	Ø38 × 3.0	Ø38 × 3.0	Ø38 × 3.0	Ø38 × 3.0
6、检修阀口 Service valve conn.	Ø25 × 2.5	Ø25 × 2.5	Ø25 × 2.5	Ø25 × 2.5
7、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
8、备用气相口 Spare gas phase conn.	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0
9、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
10、备用液相口 (排污口) Spare liquid phase conn.(drain outlet)	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0
11、回油口 Oil return conn.	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0
12、载冷剂进口 Refrigerating medium inlet	Ø76 × 4.0	Ø89 × 4.0	Ø108 × 4.5	Ø121 × 5.0
13、载冷剂出口 Refrigerating medium outlet	Ø76 × 4.0	Ø89 × 4.0	Ø108 × 4.5	Ø121 × 5.0

名义换热量基于：

载冷剂：氯化钙水溶液  
蒸发温度：-30℃  
出水温度：-25℃  
进水温度：-20℃

The nominal heat exchange is given on the basis of：

Refrigerating medium : Calcium chloride aqueous solution  
Evaporating temperature : -30℃  
Water-in temperature : -25℃  
Water-out temperature : -20℃

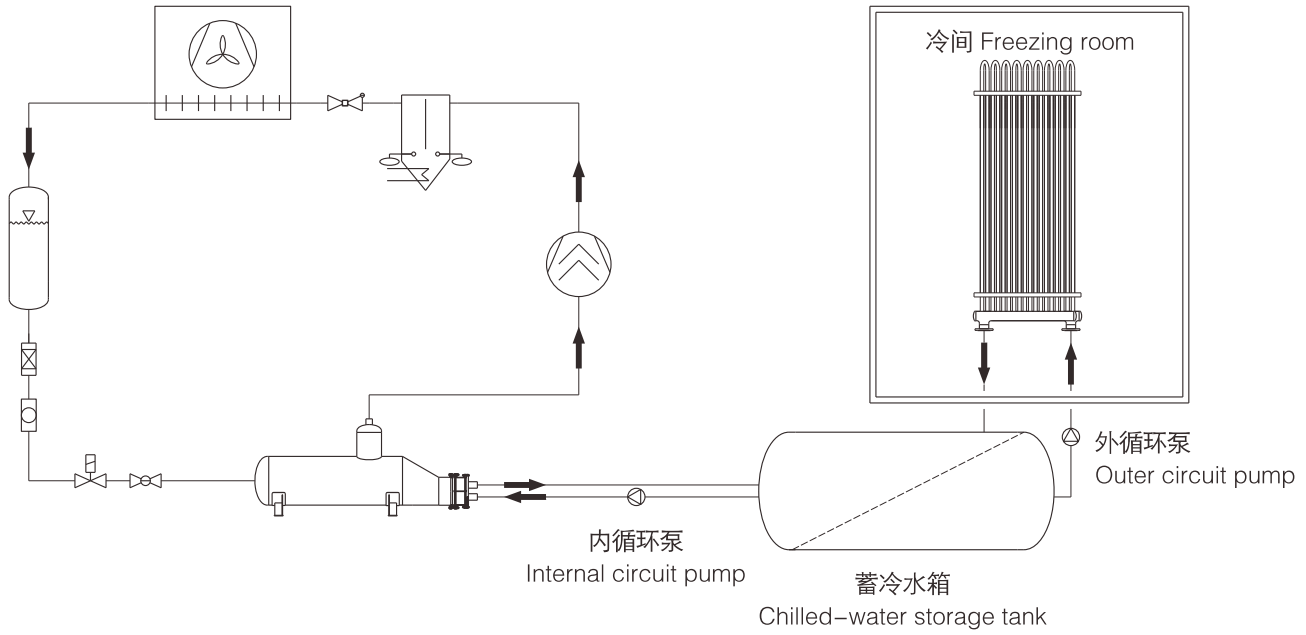


氯化钙水溶液循环泵

Circulation pump for calcium chloride aqueous solution

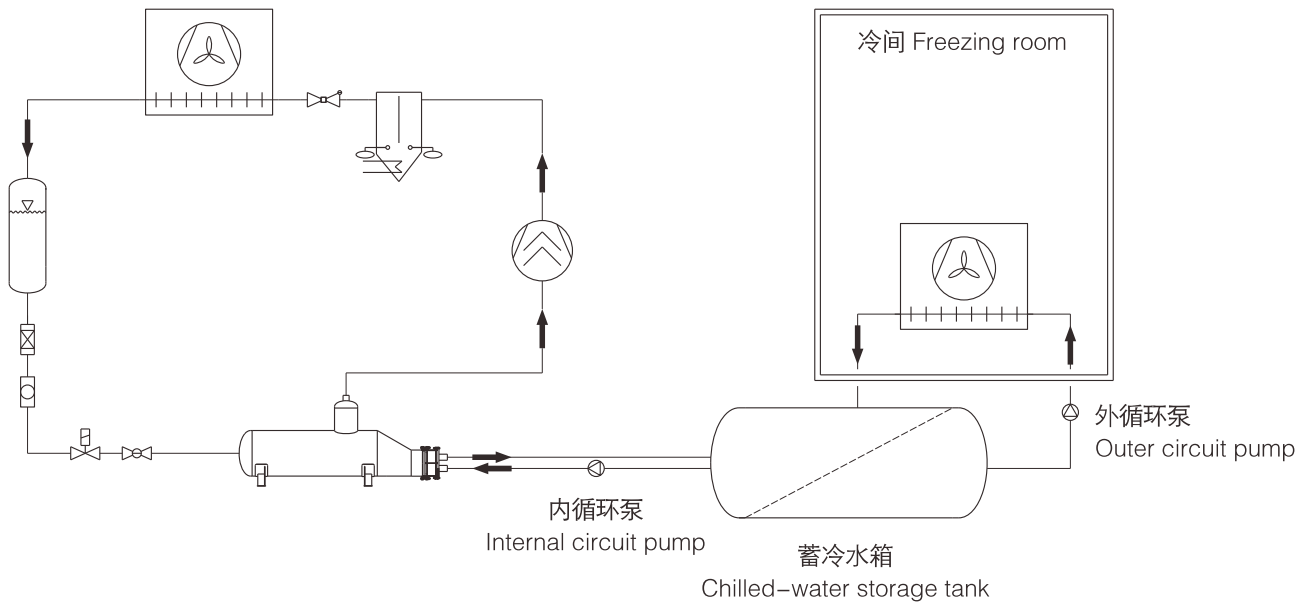
重沸满液式蒸发制冰系统

Ice-making system with reboil flooded evaporator  
(氯化钙水溶液 Calcium chloride aqueous solution)



重沸满液式载冷剂制冷冷藏库

Cold storage with reboil flooded secondary refrigerants  
(光滑蛇形顶排管 Smooth serpentine overhead coil)



重沸满液式载冷剂制冷冷藏库

Cold storage with reboil flooded secondary refrigerants  
(空气冷却器 Air cooler)



# E50 系列产品



尽我们所能满足您所需





# E50 系列产品



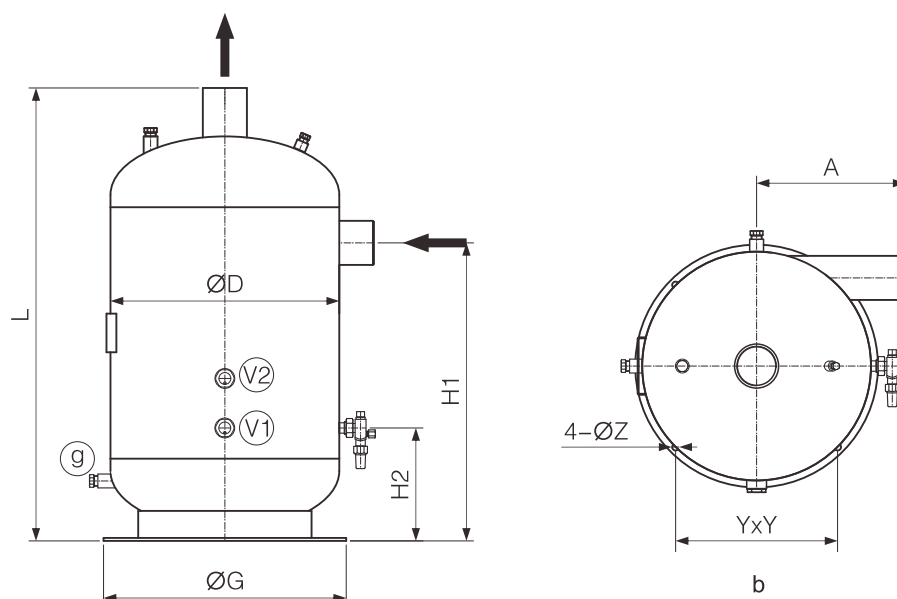


E50-86Q系列储油式油分离器用于高压回油的并联式压缩机组。它可以将分离出来的润滑油储存在下部的储油段内。依靠油分离器和压缩机曲轴箱之间的压力差，通过油位控制系统将润滑油输送到每一台压缩机。

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

E50-86Q Series Oil-stored 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.

- The design pressure:2.3MPa.
- 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)	G (mm)	ØZ (mm)	出油口 Oil Outlet	V1 油容积 Oil Volume (l)	总容积 Total Volume (l)
E50-86065Q	Ø76x4.0 BW	412	915	620	207	270	290	440	14	5/8"	19.0	91
E50-86080Q	Ø89x4.0 BW	462	915	602	228	301	327	490	14	5/8"	25.7	112
E50-86100Q	Ø108x6.0 BW	512	1015	646	234	364	360	540	18	7/8"	33.0	152
E50-86125Q	Ø133x6.0 BW	612	1110	704	261	411	436	652	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。

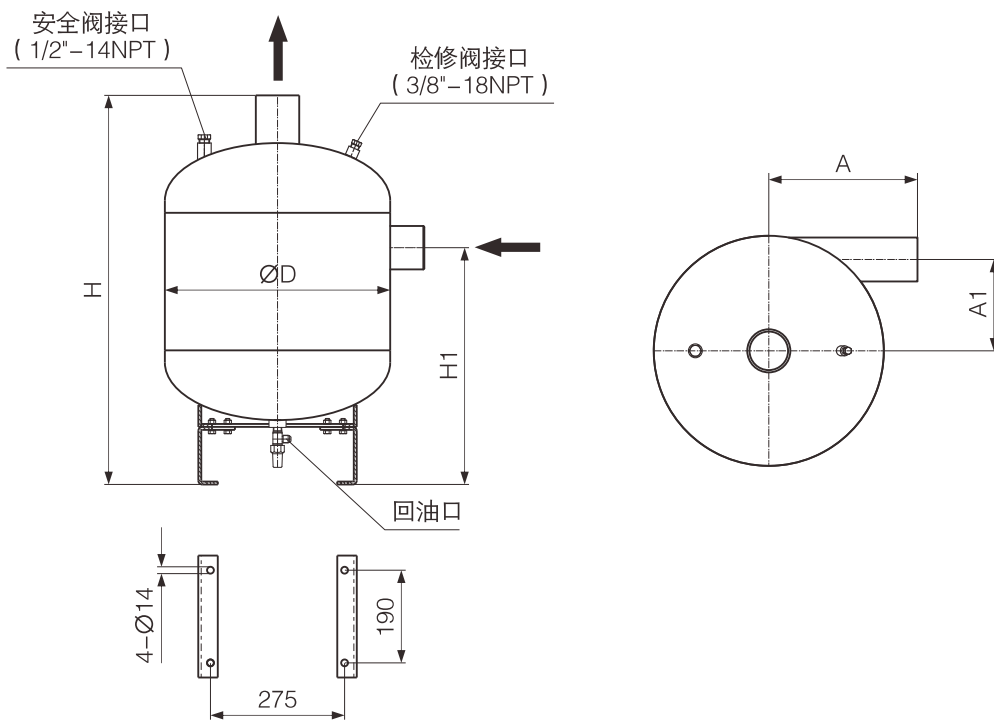
Remark: Please take the refrigeration capability of F-86Q series oil-stored type oil separator as your reference.

E50-96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。

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

E50-96 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 design pressure: 2.3MPa.
- 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)
E50-962A	Ø76x4.0 BW	412	785	491	270	162	3/8"	60
E50-962B	Ø89x4.0 BW	462	798	485	301	178	3/8"	76
E50-962C	Ø108x6.0 BW	512	955	588	364	195	3/8"	117
E50-962D	Ø133x6.0 BW	612	1030	628	411	230	3/8"	185

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.

E50LY系列螺杆机外置油分离器是为不带油分离器的螺杆式压缩机设计的，特别是多机并联螺杆式压缩机组。可以保证足够的润滑油供给每一台压缩机，使压缩机安全运转。由于E50LY系列螺杆机外置油分离器的优秀设计，它可以使最少量的润滑油进入系统内部，从而提高系统的换热效率。

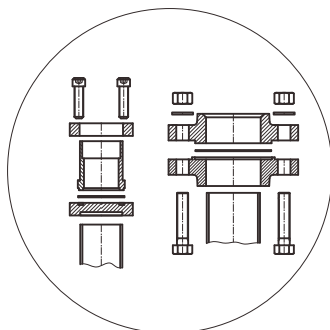
E50LY系列螺杆机外置油分离器的视油镜设计了180° 2个视油镜，以方便观察油分离器内的油位，正常油位应为视窗的1/2。

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

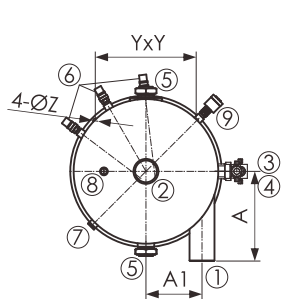
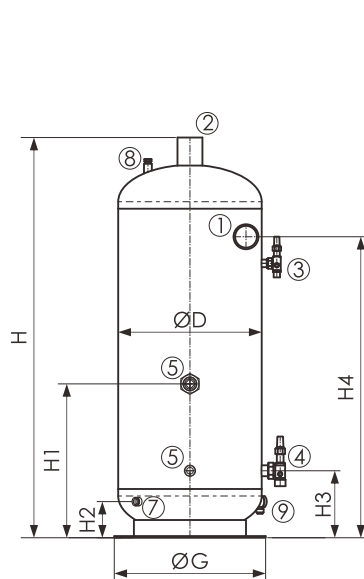
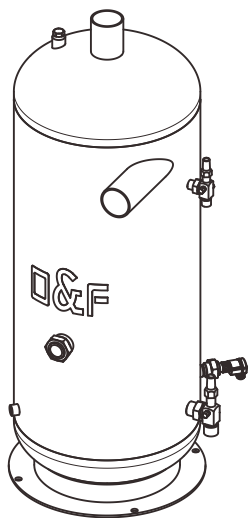
E50LY Series External Oil separator for Screw Compressor is special designed for the screw compressor without oil separator, especially for the parallel screw compressor unit, it can guarantee there will be enough lubricant supplied to each compressor for making all the compressors run safely. Because of the excellent design of this E50LY Series external oil separator, it will allow the least lubricant enter into the system, so the heat exchange ratio of the system will be increased.

To the E50LY Series external oil separator, there are 2 oil sight glasses which assembled with 180° . With the oil sight glasses you can observe the oil level inside of the oil separator easily. and the normal oil level shall be at the position of 1/2 sight glass.

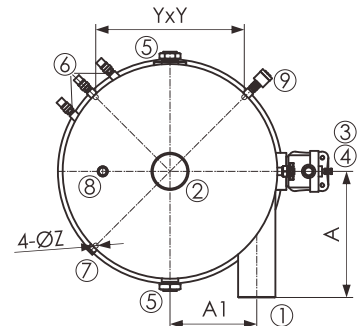
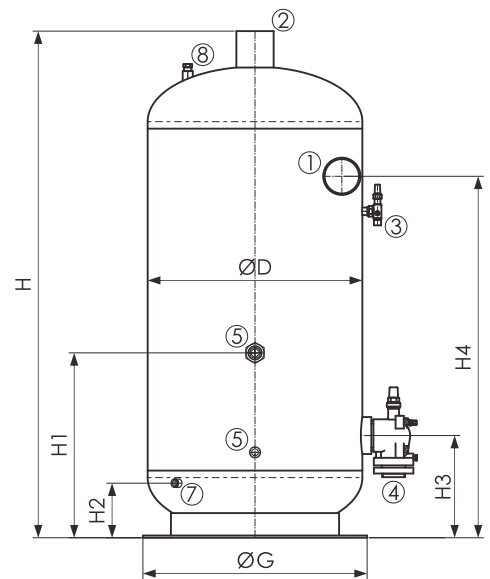
- The design pressure: 2.3MPa;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



可选配法兰组件  
Flange assembly



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、R407C、R507A	R134a、R22、R404A、R407C、R507A
E50LY-20	130	110	180
E50LY-40	250	220	300
E50LY-90	450	340	520
E50LY-120	580	440	660
E50LY-220	1160	840	1320
E50LY-400	1320	1180	1550
E50LY-670	2050	1900	2500
E50LY-1100	2800	2550	3400

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

## 连接位置 Connection Positions

1	制冷剂进口Refrigerant inlet
2	制冷剂出口Refrigerant outlet
3	注油阀连接口Conn. for oil charging valve、检修阀口Conn. for service valve
4	油出口Oil outlet
5	标准油位视镜Standard 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	安全阀接口Conn. for safety valve
9	光电油位开关接口Conn. for oil level monitoring

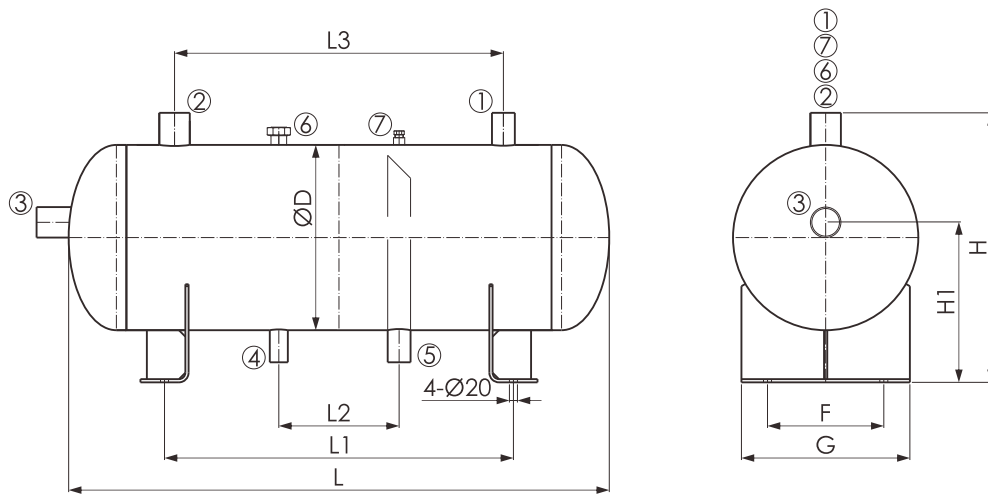
## 外形尺寸 Dimensional Drawings

	E50LY-20	E50LY-40	E50LY-90	E50LY-120	E50LY-220	E50LY-400	E50LY-670	E50LY-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	1435	1471	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	1291	1491
A(mm)	195	220	255	270	320	400	450	550
A1(mm)	110	120	148	162	200	270	310	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 Refrigerant inlet (mm)	Ø45(BW)	Ø57(BW)	Ø76(BW)	Ø76(BW)	Ø89(BW)	Ø108(BW)	Ø133(BW)	Ø159(BW)
制冷剂出口 Refrigerant outlet (mm)	Ø45(BW)	Ø57(BW)	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)	Ø54(ODS)	Ø76(ODS)	Ø76(ODS)
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	a	a	a	a	a	b	b

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。

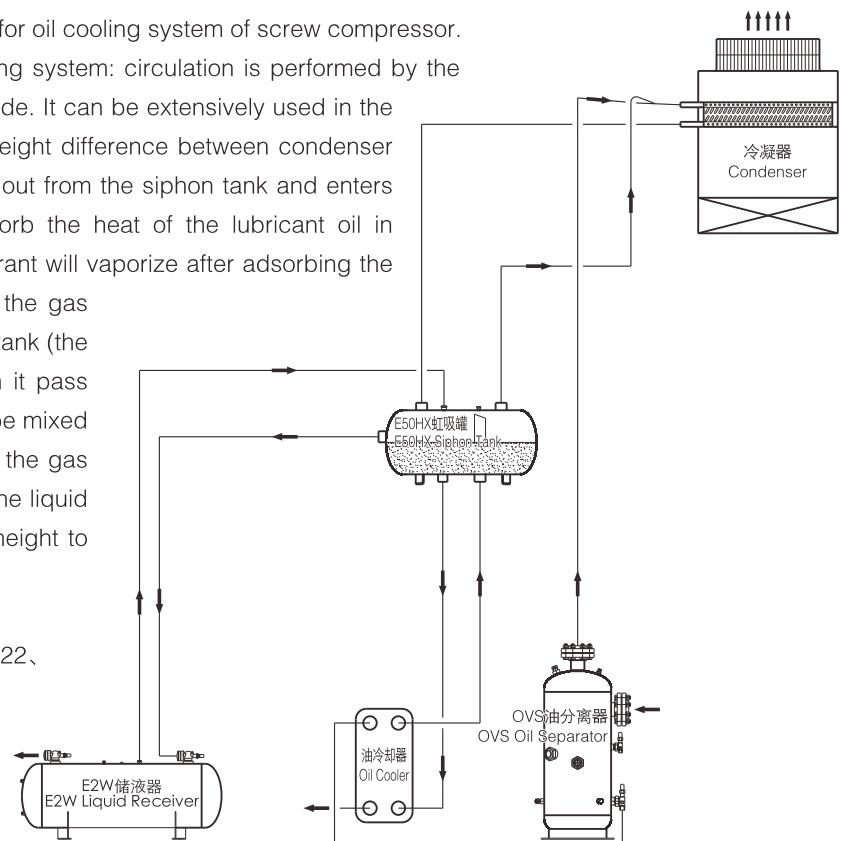
- 设计压力：2.3MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。



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

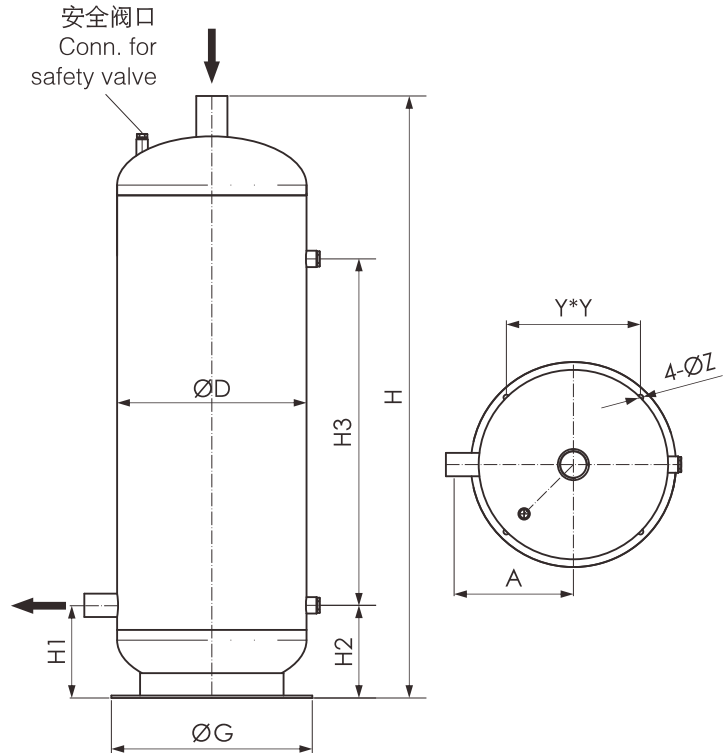
The theory of thermosiphon oil cooling system: circulation is performed by the gravity of refrigerant in high-pressure side. It can be extensively used in the refrigeration system which has enough height difference between condenser and oil cooler. The liquid refrigerant flow out from the siphon tank 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.



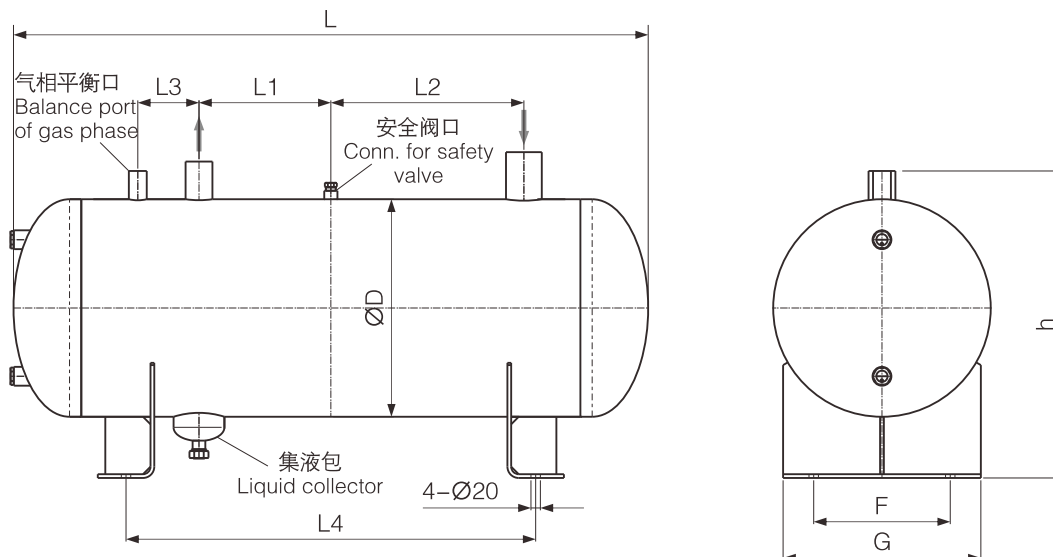
			E50HX-100	E50HX-200	E50HX-400	E50HX-600	E50HX-800	E50HX-1200
常规数据 Data	液容积 Liquid vol.	l	50	100	200	300	400	600
	总容积 Total vol.	l	100	200	400	600	800	1200
尺寸 Dimension	ØD	mm	377	462	562	612	712	816
	L	mm	1068	1348	1788	2232	2212	2546
	L1	mm	670	870	1190	1610	1530	1710
	L2	mm	230	300	400	600	600	600
	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
接口 Connection	1	mm	Ø45x3.0 BW	Ø57x3.5 BW	Ø76x4.0 BW	Ø89x4.0 BW	Ø108x4.0 BW	Ø108x4.0 BW
	2	mm	Ø57x3.5 BW	Ø76x4.0 BW	Ø89x4.0 BW	Ø108x4.0 BW	Ø133x6.0 BW	Ø133x6.0 BW
	3	mm	Ø57x3.5 BW	Ø76x4.0 BW	Ø89x4.0 BW	Ø108x4.0 BW	Ø133x6.0 BW	Ø133x6.0 BW
	4	mm	Ø38x3.0 BW	Ø45x3.0 BW	Ø57x3.5 BW	Ø76x4.0 BW	Ø89x4.0 BW	Ø89x4.0 BW
	5	mm	Ø45x3.0 BW	Ø57x3.5 BW	Ø76x4.0 BW	Ø89x4.0 BW	Ø108x4.0 BW	Ø108x4.0 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	3/4"-14	3/4"-14	3/4"-14	3/4"-14
连接口用途 Application of the Conn.	1	--	气化后的制冷剂回流冷凝器进气口 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					

- 执行标准：NB/T 47012-2010《制冷装置用压力容器》；
- 设计了进口、出口、安全阀口、高液位视镜、低液位视镜；
- 可根据客户的要求加装低液位报警器；
- 设计压力：2.3MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。
- Administer Standard: NB/T 47012-2010《Pressure Vessels for Refrigeration Equipment》；
- It is designed with inlet、outlet、connection for safety valve、sight glass of high- liquid level、sight glass of low- liquid level;
- It can be assembled with low-liquid level alarm indicator to the liquid receiver according to customers' requirements;
- The design pressure: 2.3MPa;
- Applicative refrigerants: 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)
E50L-50	273	1053	161	161	620	203	193	296	12	1-3/8"ODS	1-1/8"ODS	50
E50L-80	377	961	196	196	500	225	267	410	13	1-3/8"ODS	1-1/8"ODS	80
E50L-100	377	1164	196	196	620	269	267	410	13	Ø57x3.5 BW	Ø45x3.0 BW	100
E50L-150	412	1375	206	206	800	286	290	440	14	Ø76x4.0 BW	Ø57x3.5 BW	150
E50L-200	462	1468	226	226	845	311	327	490	14	Ø76x4.0 BW	Ø57x3.5 BW	200
E50L-250	462	1778	226	226	1100	311	327	490	14	Ø76x4.0 BW	Ø57x3.5 BW	250
E50L-300	512	1726	252	232	1060	356	360	540	18	Ø89x4.0 BW	Ø76x4.0 BW	300
E50L-400	562	1900	263	243	1170	381	390	590	18	Ø89x4.0 BW	Ø76x4.0 BW	400
E50L-500	612	2000	280	260	1230	406	425	640	18	Ø89x4.0 BW	Ø76x4.0 BW	500
E50L-800	712	2326	301	281	1470	456	497	750	18	Ø89x4.0 BW	Ø76x4.0 BW	800

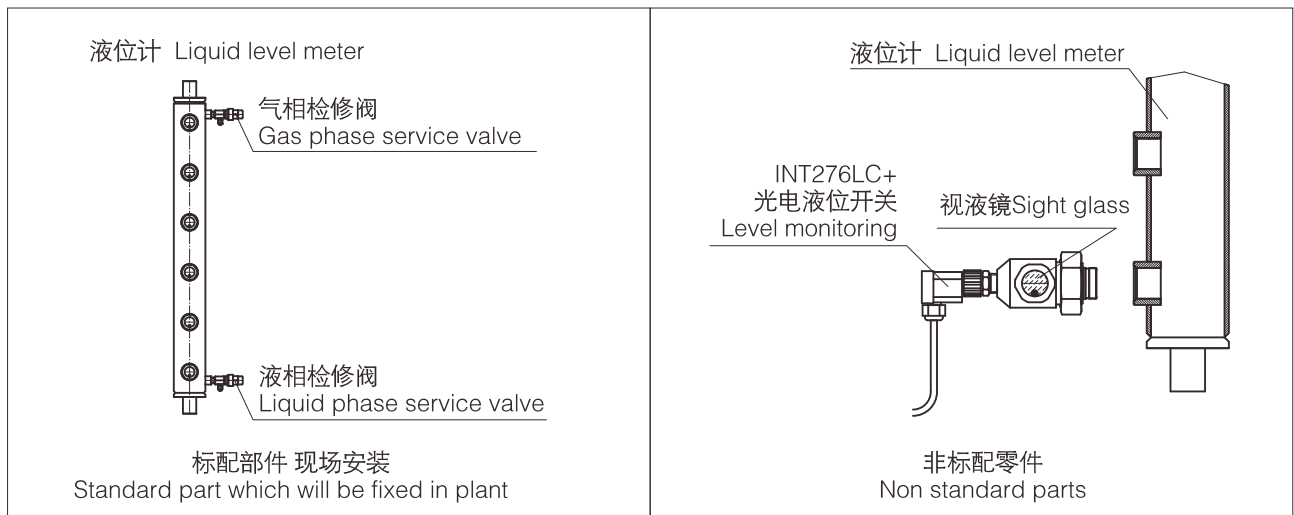
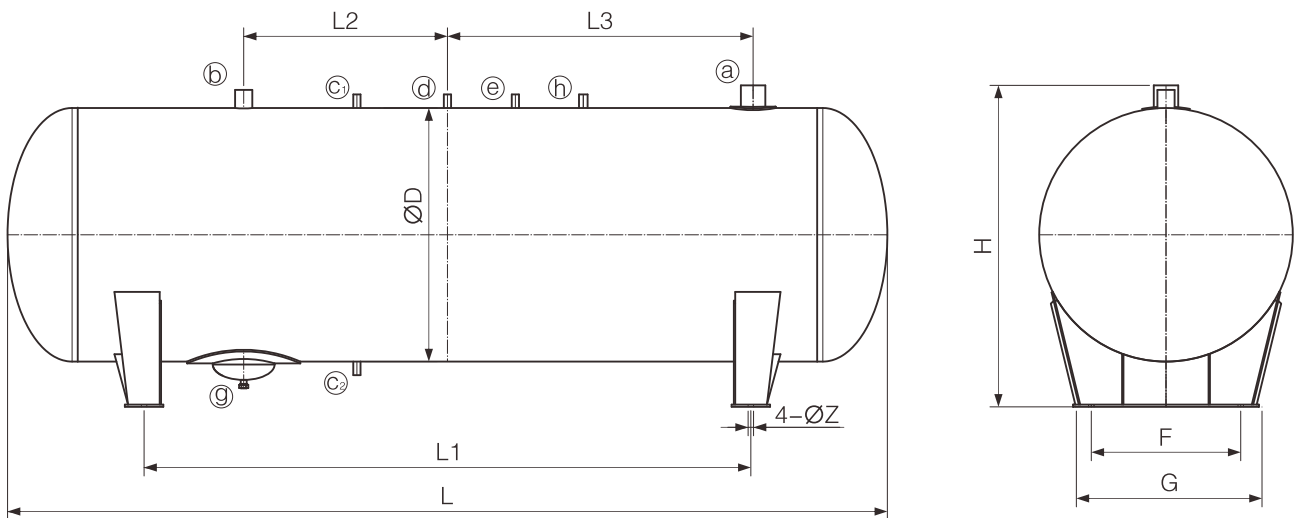
- 执行标准：NB/T 47012-2010《制冷装置用压力容器》；
- 设计了进口、出口、安全阀口、排污口、气相平衡接口高液位视镜、低液位视镜；
- 可根据客户的要求加装低液位报警器；
- 设计压力：2.3MPa；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。
- Administer Standard: NB/T 47012-2010《Pressure Vessels for Refrigeration Equipment》；
- It is designed with inlet、outlet、connection for safety valve、drain、balance port of gas phase、sight glass of high-liquid level、sight glass of low-liquid level；
- It can be assembled with low-liquid level alarm indicator to the liquid receiver according to customers' requirements；
- The design pressure: 2.3MPa；
- Applicative refrigerants: 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)
E50W-50	273	986	200	330	120	660	388	180	260	1-3/4"-12UN	1-3/4"-12UN	1-1/4"-12UNF	50
E50W-80	377	878	130	190	140	480	512	250	350	1-3/4"-12UN	1-3/4"-12UN	1-1/4"-12UNF	80
E50W-100	377	1068	170	335	140	670	557	250	350	Ø57x3.5 BW	Ø45x3.0 BW	1-1/4"-12UNF	100
E50W-150	412	1272	250	410	130	820	642	260	380	Ø76x4.0 BW	Ø57x3.5 BW	Ø38x3.0 BW	150
E50W-200	462	1348	280	410	130	870	692	290	420	Ø76x4.0 BW	Ø57x3.5 BW	Ø38x3.0 BW	200
E50W-250	462	1658	430	565	140	1180	692	290	420	Ø76x4.0 BW	Ø57x3.5 BW	Ø38x3.0 BW	250
E50W-300	512	1622	355	535	160	1100	742	330	460	Ø89x4.0 BW	Ø76x4.0 BW	Ø38x3.0 BW	300
E50W-400	562	1786	355	580	200	1190	792	360	510	Ø89x4.0 BW	Ø76x4.0 BW	Ø38x3.0 BW	400
E50W-500	612	1882	400	615	200	1260	862	400	550	Ø89x4.0 BW	Ø76x4.0 BW	Ø38x3.0 BW	500
E50W-800	712	2212	530	745	200	1530	962	460	640	Ø89x4.0 BW	Ø76x4.0 BW	Ø38x3.0 BW	800



- 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) (h)。
- 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) (h) .



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 <sub>1</sub> )	液位计液相口 Liquid phase conn. for liquid level meter ( c <sub>2</sub> )	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	Ø76 × 4.0	Ø57 × 3.5	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø38 × 3.0	1-1/4"-12UNF
E50MW-1.5	Ø76 × 4.0	Ø57 × 3.5	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø38 × 3.0	1-1/4"-12UNF
E50MW-2.0	Ø76 × 4.0	Ø57 × 3.5	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø38 × 3.0	1-1/4"-12UNF
E50MW-2.5	Ø108 × 4.0	Ø76 × 4.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø38 × 3.0	1-1/4"-12UNF
E50MW-3.0	Ø108 × 4.0	Ø76 × 4.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø38 × 3.0	1-1/4"-12UNF
E50MW-3.5	Ø108 × 4.0	Ø76 × 4.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø38 × 3.0	1-1/4"-12UNF
E50MW-4.0	Ø108 × 4.0	Ø76 × 4.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø38 × 3.0	1-1/4"-12UNF
E50MW-4.5	Ø108 × 4.0	Ø76 × 4.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø38 × 3.0	1-1/4"-12UNF
E50MW-5.0	Ø108 × 4.0	Ø76 × 4.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø38 × 3.0	1-1/4"-12UNF
E50MW-6.0	Ø108 × 4.0	Ø76 × 4.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø32 × 3.0	Ø38 × 3.0	1-1/4"-12UNF

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 <sup>3</sup> )
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

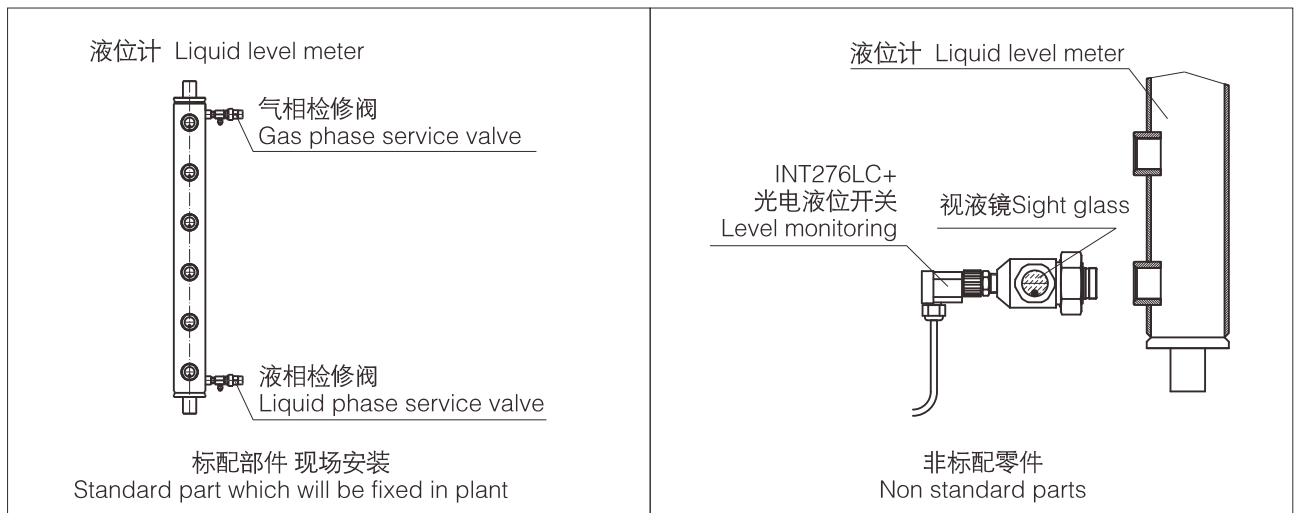
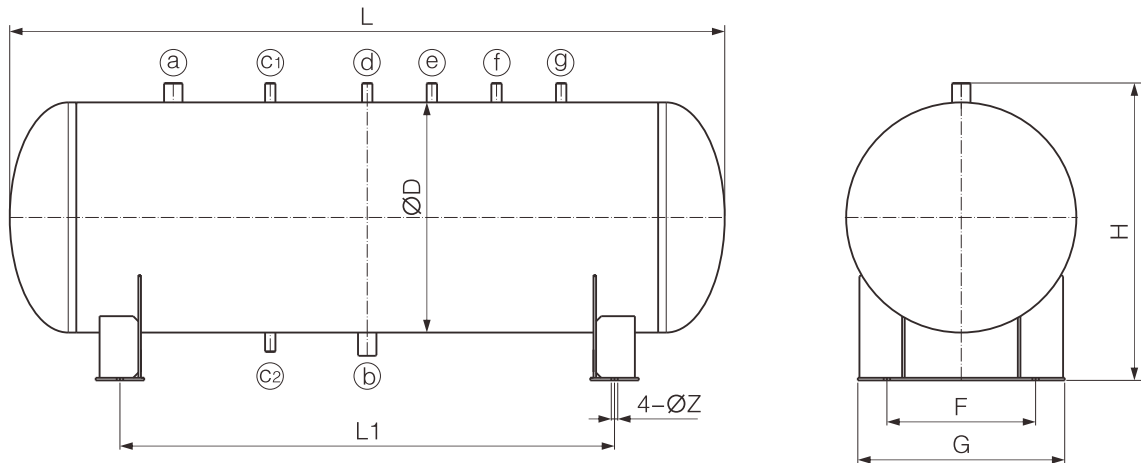
E50PY系列排液桶安装在氟泵供液的制冷系统中，用来储存冻结间或冷藏间热气融霜时由冷风机和排管蒸发器中来的制冷剂。

- 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).



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 <sub>2</sub> )	液位计液相口 Liquid phase conn. for liquid level meter ( c <sub>2</sub> )	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	Ø32×3.0
E50PY-0.5	Ø57×3.5	Ø57×3.5	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0
E50PY-0.8	Ø57×3.5	Ø57×3.5	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0
E50PY-1.0	Ø76×4.0	Ø76×4.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø38×3.0
E50PY-1.5	Ø76×4.0	Ø76×4.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø38×3.0
E50PY-2.0	Ø76×4.0	Ø76×4.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø32×3.0	Ø38×3.0

型号 Model	ØD (mm)	L (mm)	L1 (mm)	H (mm)	G (mm)	F (mm)	ØZ (mm)	容积 Volume (m <sup>3</sup> )
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



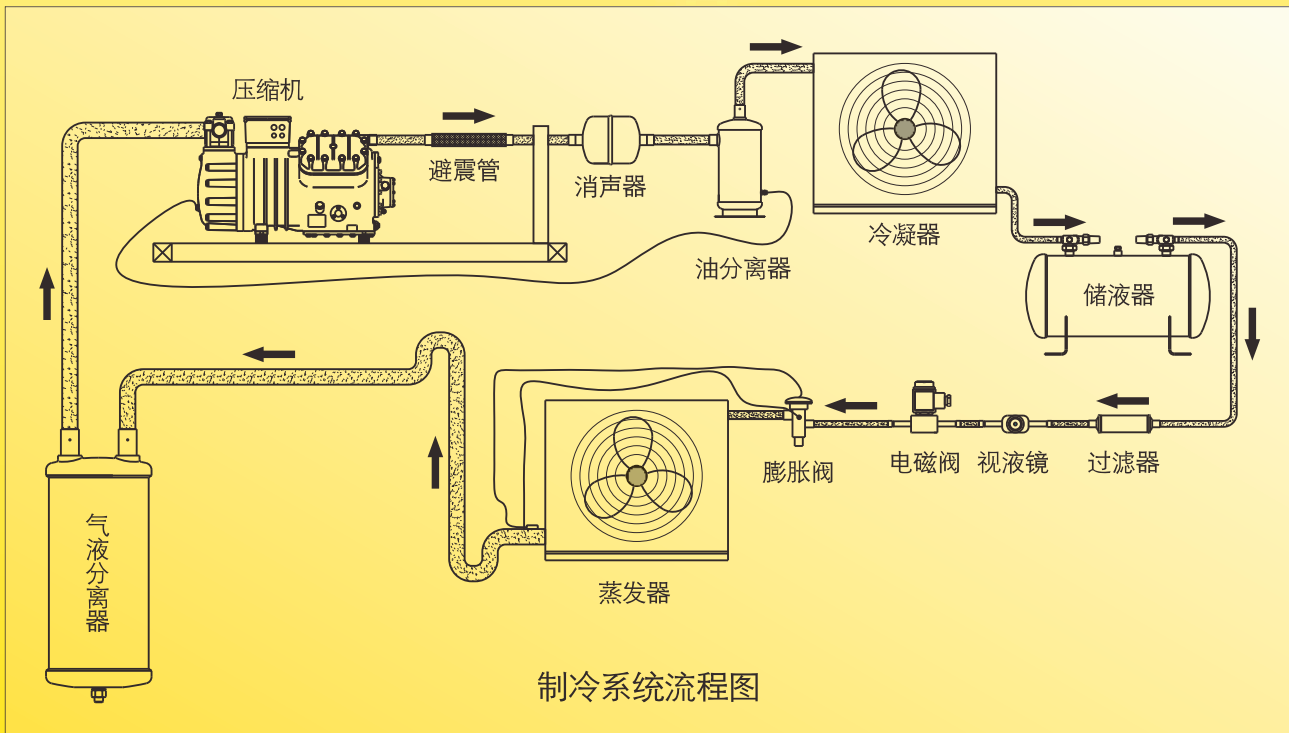
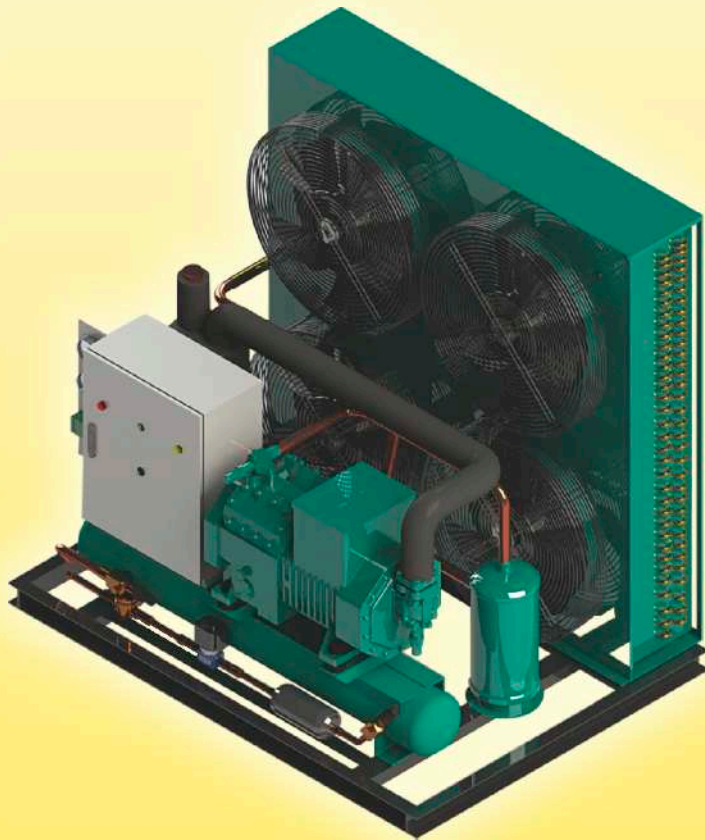
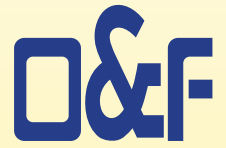
# 商用产品



尽我们所能满足您所需



# 商用产品



● 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 [°C] :        100...-10   -10...-40
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。

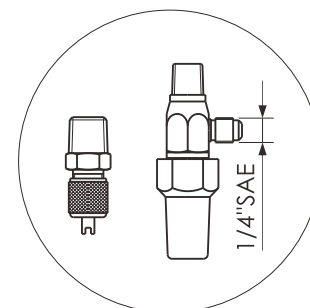
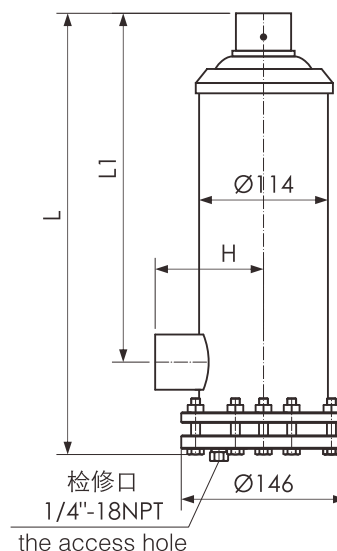
● When you use the filter in liquid line, please use the filter core FJ-48A which can filter out the dirt in the system, and it also can absorb the water and acid materials;

● 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 [°C]:    100...-10   -10...-40
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



非标配零件  
Non standard parts

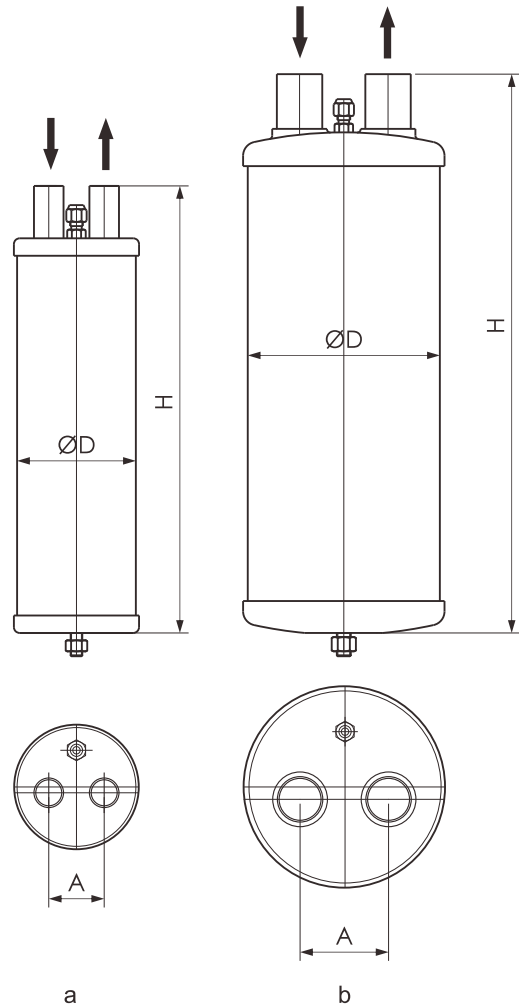
型号 Model	接口尺寸 Joint Size(Inch)	芯数 (个) Core-Quantity ( Piece )	L (mm)	L1 (mm)	H (mm)	容积 Volume (l)
FD-485	5/8"	1	231	159	83	1.6
FD-487	7/8"	1	228	154	79	1.6
FD-489	1-1/8"	1	231	154	82	1.6
FD-4811	1-3/8"	1	242	161	93	1.6
FD-4813	1-5/8"	1	242	157	93	1.6
FD-4817	2-1/8"	1	254	164	106	1.6
FD-967	7/8"	2	373	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

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 [°C]： 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 [°C]: 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-5205	1-3/8"	102	497	48	1/4"	0.5	3.2	a
F-6204	1-1/8"	165	425	76	1/4"	1.2	7.9	b
F-6205	1-3/8"	165	475	76	1/4"	1.2	8.1	b
F-6206	1-5/8"	165	480	82	1/4"	1.2	8.1	b

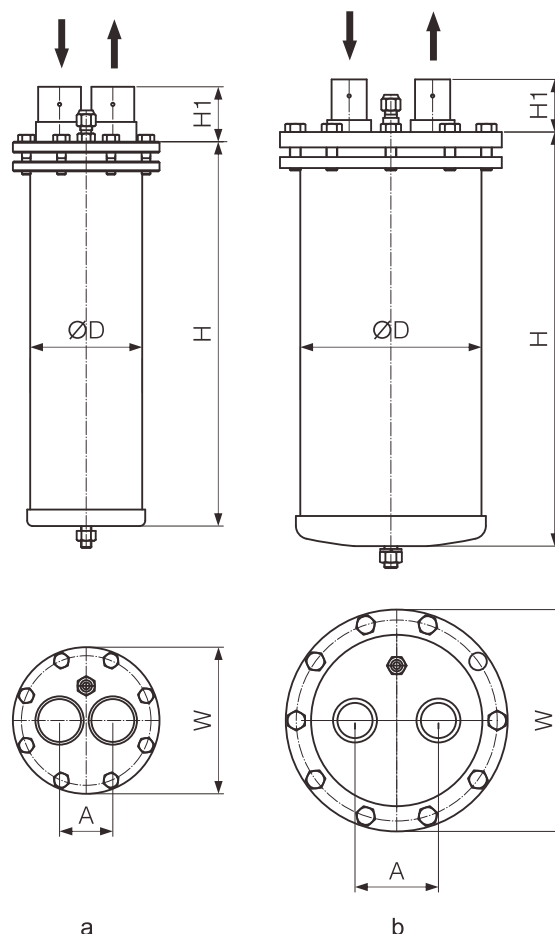


当制冷管路在焊接时未使用氮气就会产生氧化皮。另一方面，由于不良的系统设计或缺乏规范的维护措施会导致压缩机排气温度过高，过高的排气温度使润滑油和制冷剂炭化生成固体颗粒，这些固体脏物会影响浮球阀正常工作和堵塞回油阀。使用这款带有法兰的油分离器。可以通过打开法兰来对油分离器内部进行清洗。油分离器底部装有一块永磁铁，它可以吸附进入油分离器中的铁屑。

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

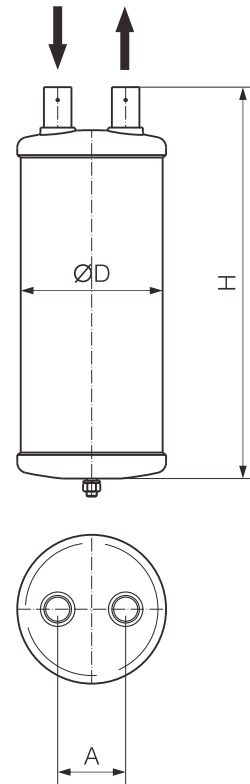
During the process of welding the refrigeration line it will engender the oxide coating if you did not use the nitrogen. And in the other side, the discharge temperature will be extortionate which caused by the undesirable system design or the lack of normative maintenance method. The extortionate discharge 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 [°C]: 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

- 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 [°C]： 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°C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 [°C]: 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°C.



a

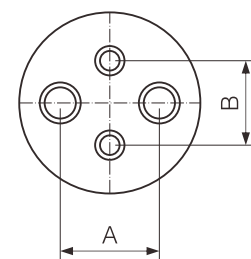
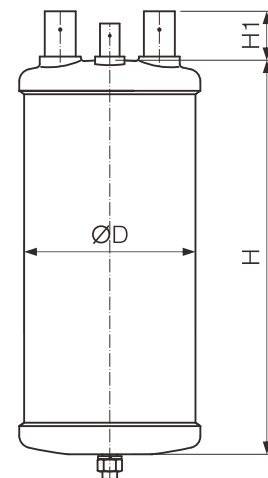
型号 Model	接口尺寸 Joint Size (Inch)	ØD (mm)	H (mm)	A (mm)	容积 Volume (l)	图例 Fig.
FA-204	1/2"	102	250	53	1.5	a
FA-205	5/8"	102	310	54	2	a
FA-206	3/4"	140	302	80	3.3	a
FA-207	7/8"	140	362	81	4.2	a
FA-208	1-1/8"	165	453	79	7.3	a
FA-209	1-3/8"	165	588	84	9.9	a
FA-210	1-5/8"	165	643	82	10.8	a

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[°C]: 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.

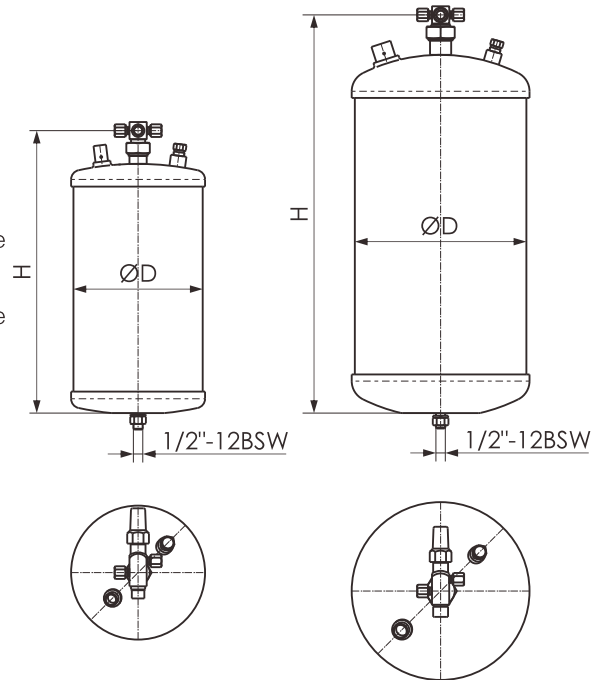
- Installation method: Vertical installation;
- The material of inlet and outlet: Copper;
- The Max. Allowed Working Pressure [bar]: 28 15
- Allowed Working Temperature[°C]: 100...-10 -10...-50
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



a

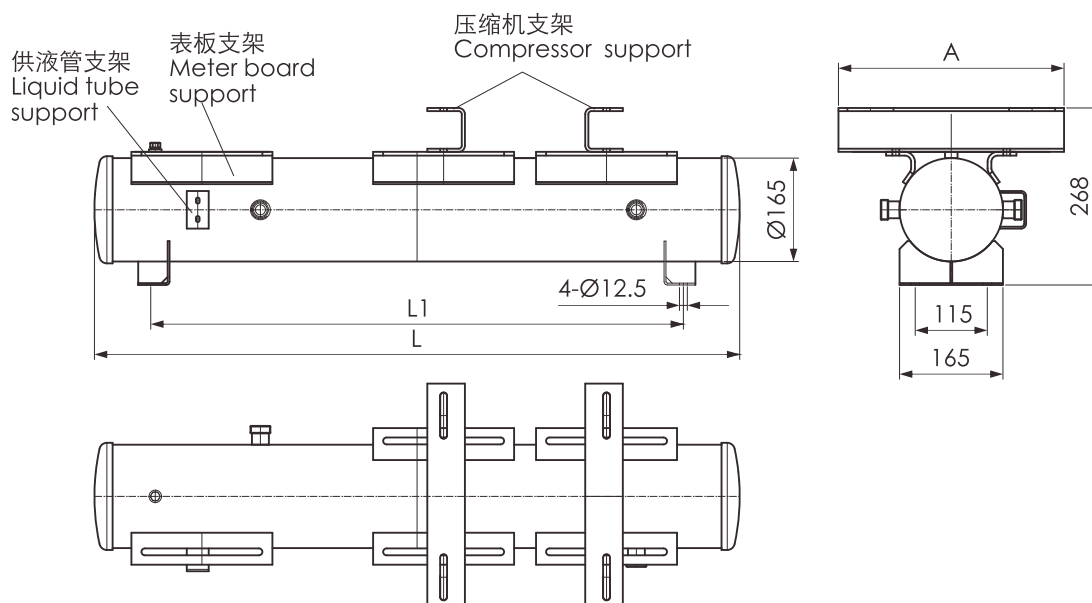
型号 Model	气管 Suction Pipe (Inch)	液管 Liquid Pipe (Inch)	ØD (mm)	H (mm)	H1 (mm)	A (mm)	B (mm)	ØG (mm)	Y (mm)	容积 Volume (l)	图例 Fig.
FAV-2404	1/2"	3/8"	102	215	35	53	60	----	----	1.5	a
FAV-2405	5/8"	3/8"	102	275	35	54	60	----	----	2	a
FAV-2406	3/4"	1/2"	140	262	40	80	69	----	----	3.3	a
FAV-2407	7/8"	1/2"	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[°C]: 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 [°C]: 100...-10 -10...-40
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



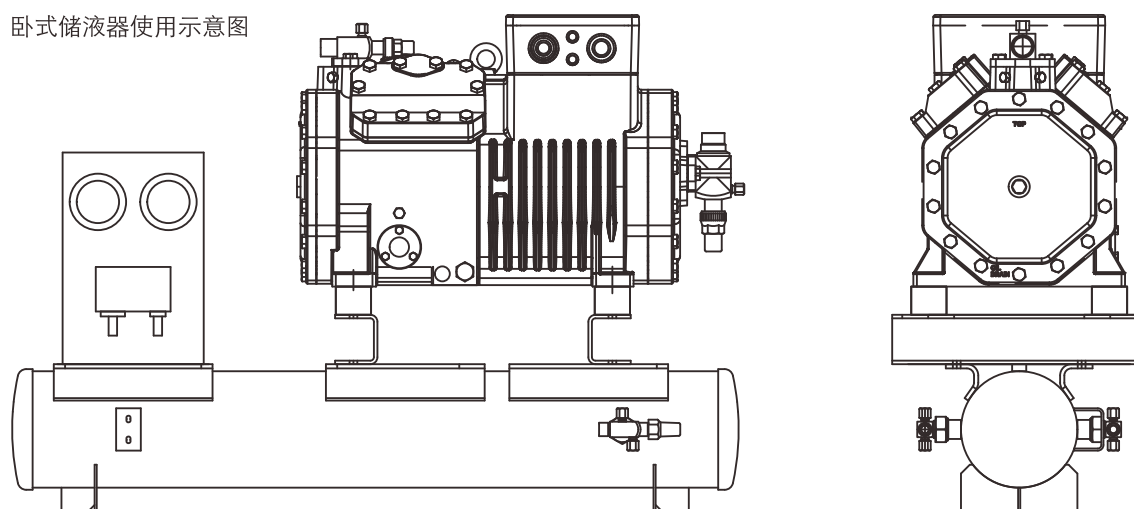
型号 Model	ØD (mm)	H (mm)	进口 Inlet	出口 Outlet	容积(l) Volume(l)	图例 Fig.
L3-04	165	365	3/8" ODS	3/8" ODS (1"-14UNS)	4	a
L3-06	165	361	1/2" ODS	1/2" ODS (1"-14UNS)	6	a
L3-08	165	461	1/2" ODS	1/2" ODS (1"-14UNS)	8	a
L3-10	165	572	5/8" ODS	5/8" ODS (1"-14UNS)	10	a
L3-15	219	508	5/8" ODS	5/8" ODS (1-1/4"-12UNF)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

- W3 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 [°C]: 100...-10 -10...-40
- 适用制冷剂: R134a, R22, R407C, R404A, R507A。
- The inlet and outlet of W3 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 [°C]: 100...-10 -10...-40
- Applicative refrigerants: R134a, R22, R407C, R404A, R507A.

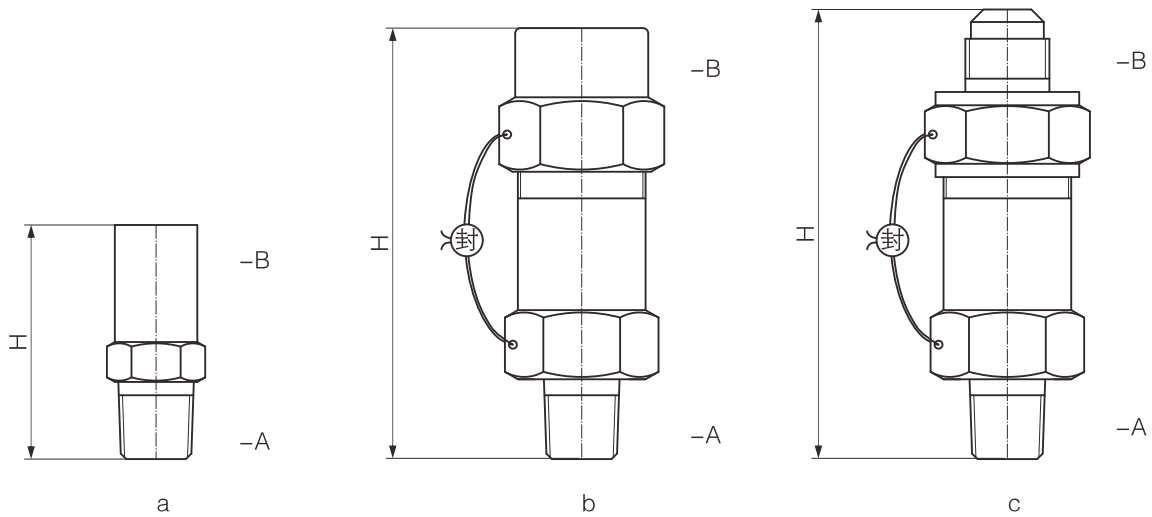


型号 Model	L (mm)	L1 (mm)	A (mm)	进口 Inlet	出口 Outlet	容积 (l) Volume (l)
W3-16	830	600	310	5/8"ODS (1-1/4"-12UNF)	5/8"ODS (1-1/4"-12UNF)	16
W3-20	1030	850	360	5/8"ODS (1-1/4"-12UNF)	5/8"ODS (1-1/4"-12UNF)	20
W3-25	1280	1100	360	7/8"ODS (1-1/4"-12UNF)	7/8"ODS (1-1/4"-12UNF)	25

卧式储液器使用示意图



- 适用制冷剂：CFC，HCFC，HFC
- 运行温度范围；-40℃ ~ 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: -40℃ ~ 150℃
- Set-pressure: O&F standard products and also can be manufactured as customers' requirements.



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

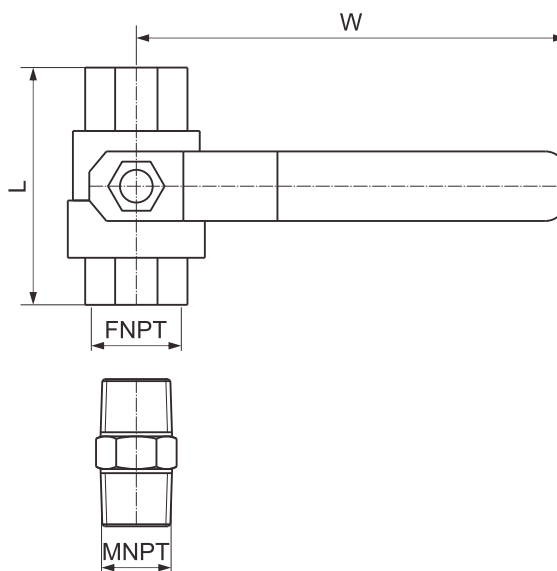
- 1、235 psig    2、300 psig    3、350 psig    4、400 psig    5、425 psig    6、450 psig  
 7、1.7 MPa    8、2.1 MPa    9、2.4 MPa    10、2.8 MPa    11、2.9 MPa    12、3.1 MPa

## F-Q系列带锁定球型检修阀

F-Q Series Service Valve with Locking Ball



- 公称压力：6.9MPa(1000psi)
- 适用温度：+180℃~-20℃
- 阀体、球体、球杆材料：304不锈钢
- 填料和密封圈材料：聚四氟乙烯（PTFE）
- 阀门带锁定装置，检验完毕后即可上锁以免误操作
- 阀门标配一个MNPT双外螺纹接头。
- Nominal pressure: 6.9MPa (1000psi)
- Applicative temperature: +180℃~-20℃
- Material of the valve body and the ball and spindle is 304 stainless steel
- Material of stuffing and gasket is PTFE
- The valve has locking device, so it can be locked after checking, it can avoid misoperation
- The valve is standard assemble with MNPT double external thread connection.

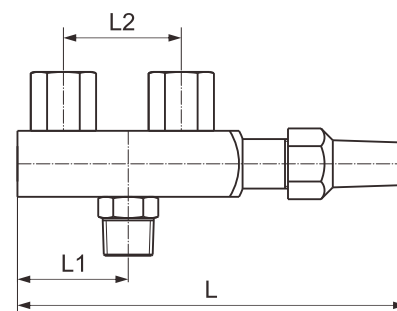


型号 Model	接口尺寸 Connection Size	喉径（流通直径） Throat diameter(Flow diameter) (mm)	L (mm)	W (mm)
F-Q02	1/4" FNPT	12.5	49	100
F-Q03	3/8" FNPT	12.5	49	100
F-Q04	1/2" FNPT	15.0	58	100
F-Q06	3/4" FNPT	20.0	66	127
F-Q08	1" FNPT	25.0	77	127

## F-W系列安全阀用切换阀

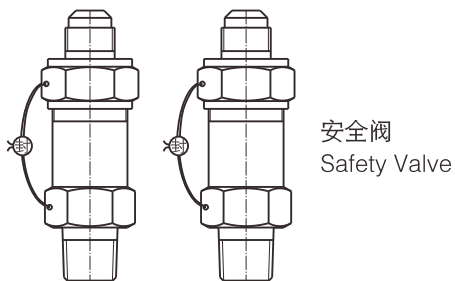
F-W Series Changeover valve for Safety Valve

- 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

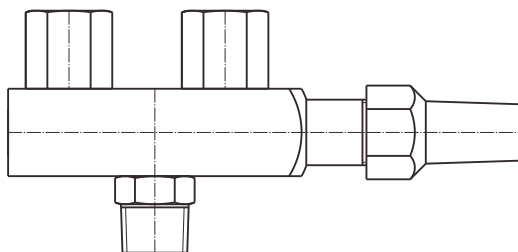


型号 Model	安全阀接口尺寸 Conn. size of safety valve	最小流通直径 Min. flow diameter (mm)	L (mm)	L1 (mm)	L2 (mm)
F-W03	3/8" NPT	11.0	150	54	46
F-W04	1/2" NPT	13.5	150	54	46
F-W06	3/4" NPT	19.0	180	65	57
F-W08	1" NPT	23.0	216	80	63

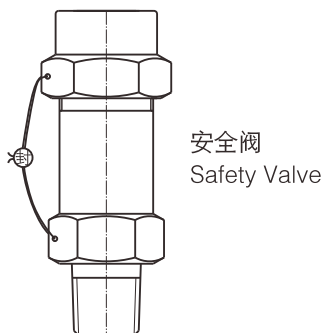
F-W系列安全阀用切换阀总成



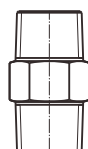
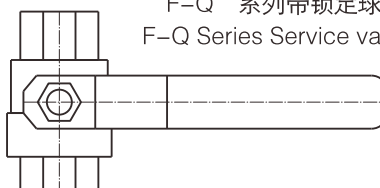
“F-W”系列安全阀用切换阀  
F-W Series Changeover valve for safety valve



球型检修阀安全阀总成



“F-Q”系列带锁定球型检修阀  
F-Q Series Service valve with locking ball



双外螺纹接头  
Connetor with double external thread

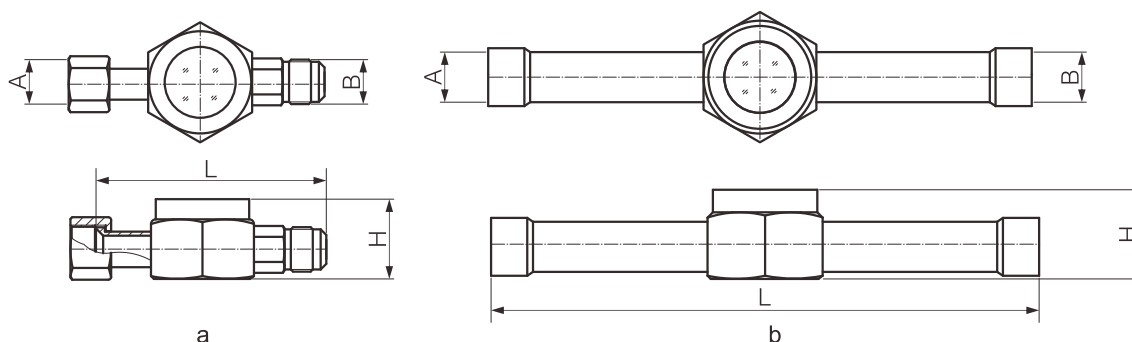
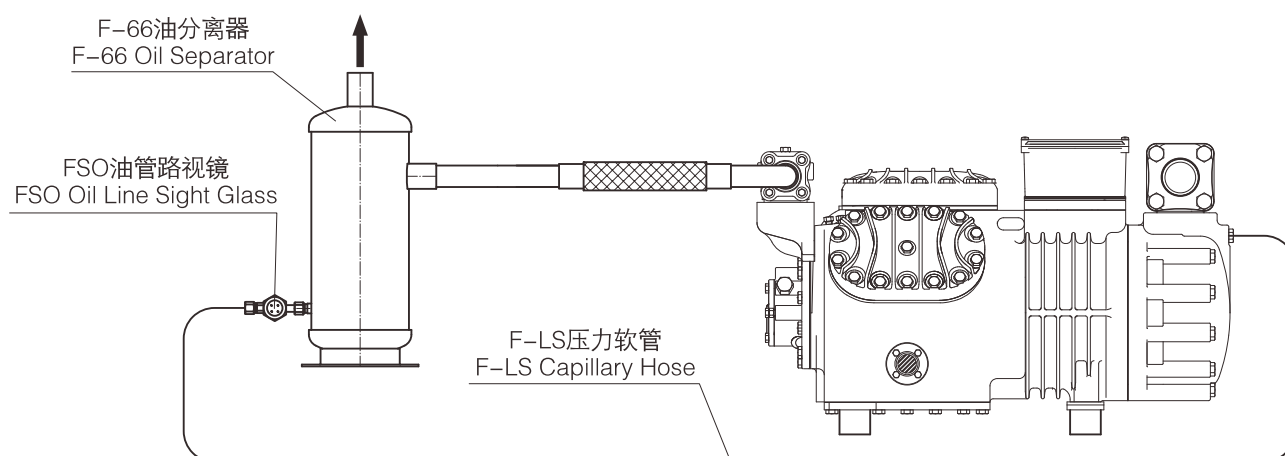


通过安装FSO视镜可以清晰的观察到油管路油的流动情况，可以安装在油分离器的回油口和螺杆式压缩机油管路上。

- 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).



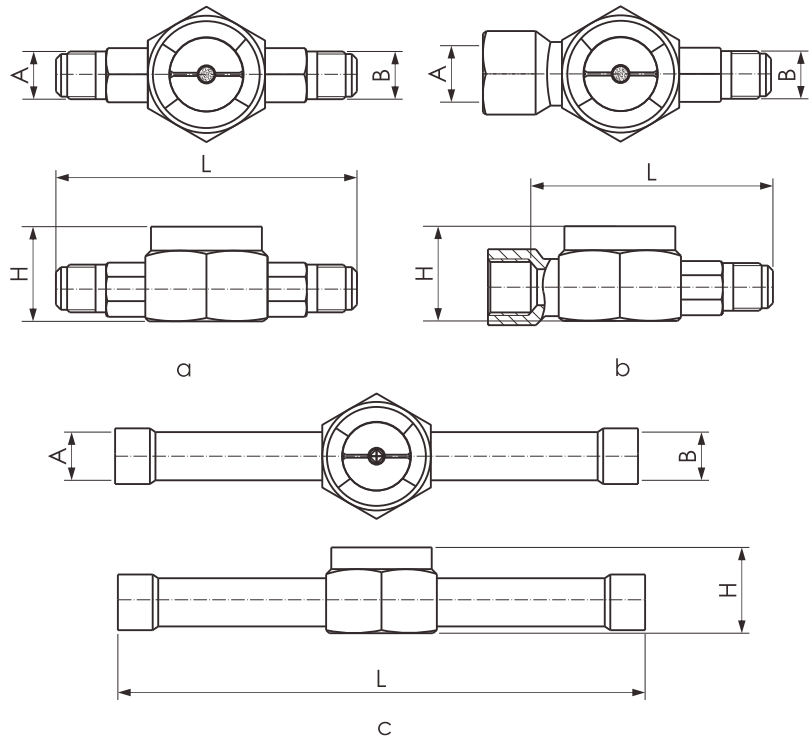
型号 Model	视孔直径 Sight hole diameter (mm)	L (mm)	H (mm)	A (接口形式) (Conn. type)	B (接口形式) (Conn. type)	图例 Fig.
FSO-02	Ø19	75	20.0	1/4"SAE内螺纹	1/4"SAE外螺纹	a
FSO-03	Ø21	86	24.5	3/8"SAE内螺纹	3/8"SAE外螺纹	a
FSO-04	Ø21	88	24.5	1/2"SAE内螺纹	1/2"SAE外螺纹	a
FSO-03S	Ø21	120	24.5	3/8" ODS	3/8" ODS	b
FSO-04S	Ø21	120	24.5	1/2" 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

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.



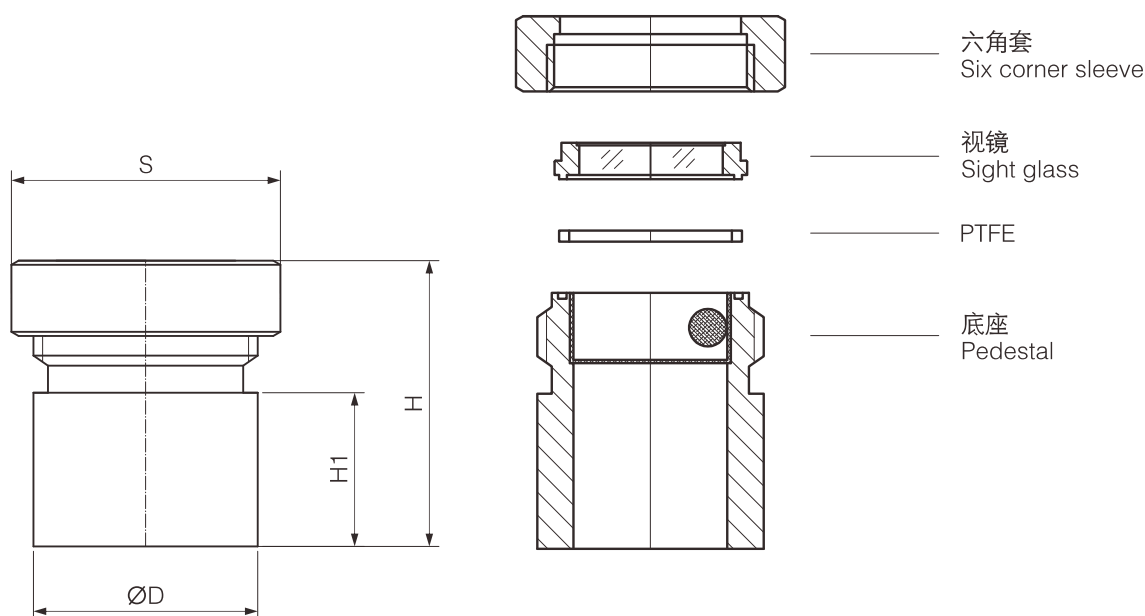
型号 Model	视孔直径 Sight hole diameter ( mm )	L ( mm )	H (mm)	A (接口形式) (Conn. type)	B (接口形式) (Conn. type)	图例 Fig.
FSG-03	Ø21	87	24.5	3/8"SAE外螺纹 3/8"SAE Male thread	3/8"SAE外螺纹 3/8"SAE Male thread	a
FSG-04	Ø21	91	29.5	1/2"SAE外螺纹 1/2"SAE Male thread	1/2"SAE外螺纹 1/2"SAE Male thread	a
FSG-05	Ø21	94	32	5/8"SAE外螺纹 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）。

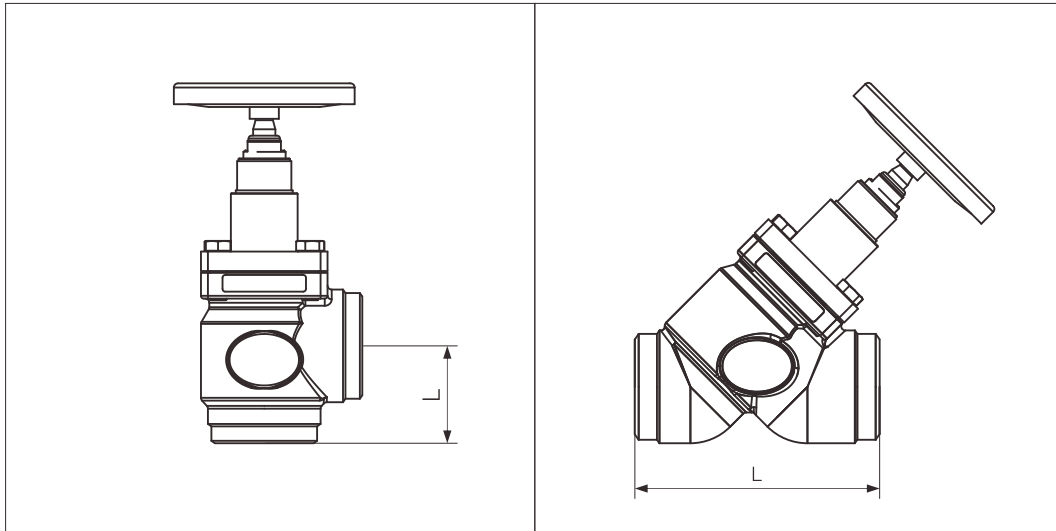
You can observe the oil and refrigerant inside of the vessel clearly through by the combined type sight glass. It is made by carbon steel and sealed with Polytetrafluoroethylene（PTFE），and inside of it there is a red float.

- 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	30	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

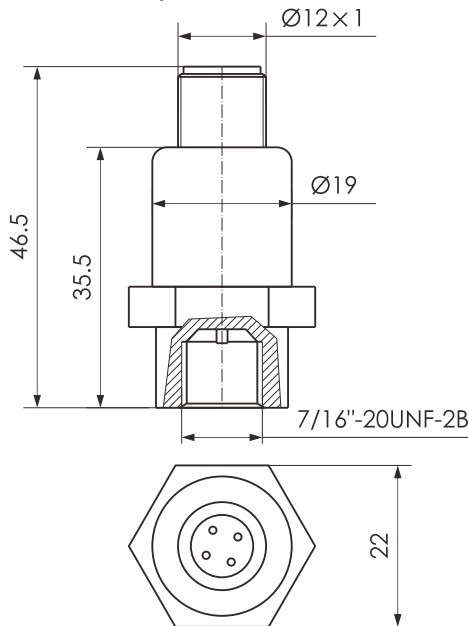
- Kv值高，压力降小；
  - 最大许可工作压力：60 bar；
  - 运行温度范围：-50℃ ~ 150℃；
  - 适用制冷剂：R134a、R22、R407C、R404A、R507A；
  - 口径：DN15 ~ DN200，直角型和直通型。
- The Kv value is high and pressure droop is little;
  - Max. Admissible Working Pressure: 60 bar;
  - Running temperature: -50°C ~ 150°C;
  - Applicative refrigerants: R134a、R22、R407C、R404A、R507A;
  - 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		

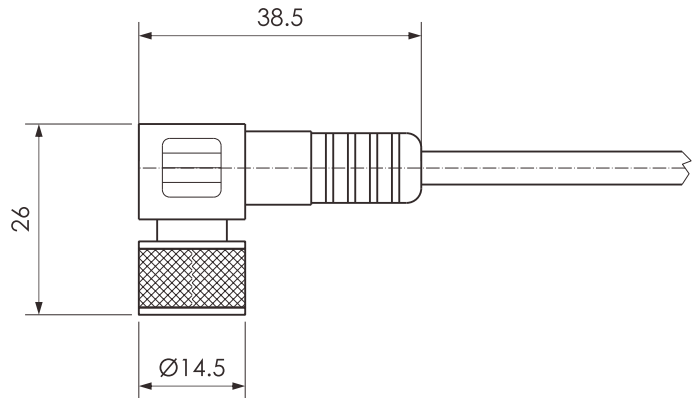
FYC系列压力传感器是法斯克（O&F）委托捷迈（GEMS）英国工厂代工产品，可以把压力转化为线性的模拟量4~20mA电信号输出。适用于制冷压缩机、风机和电子膨胀阀的精确控制。

- 不锈钢壳体和防潮接线设计；
- 长期偏移：0.2%全量程/年；
- 精度：0.5%全量程；
- 响应时间：1ms；
- 零点/满程允差：±1%；
- 输入电压：9~30V/DC；
- 输出信号：4~20mA；
- 环境温度：-40°C~+105°C；
- 机械连接方式：7/16"-20UNF（带顶针）；
- 电气连接方式：M12×1；
- 防护等级：IP65；
- 振动：40g；
- 晃动：IEC 68-2-32Procedure 1；
- 适用制冷剂：R134a、R22、R407C、R404A、R507A。



FYC Series Pressure Transmitters is a kind of factory production which is authorized by Fasike (O&F) to GEMS England plant to produce. It can change the pressure into analog quantity linear and then be output as 4~20mA electric signal. It can be used for accurate control to refrigeration compressor, fans and expansion valve.

- Stainless steel shell and moistureproof wiring;
- Long term drift: 0.2% FS/Year;
- Accuracy: 0.5% FS;
- Response time: 1ms;
- Zero/Full range allowed tolerance: ± 1%;
- Voltage input: 9~30V/DC;
- Signal output: 4~20mA;
- Ambient temperature: -40°C~+105°C;
- Mechanical connection form: 7/16"-20UNF (with plunger);
- Electrical connection form: M12×1;
- Protection grade: IP65;
- Vibration: 40g;
- Shock: IEC 68-2-32Procedure 1;
- Applicative refrigerants: R134a、R22、R407C、R404A、R507A.



型号 Model	压力范围 Pressure range (bar)	适用于 Applicative for	耐压 Pressure resistance (bar)	爆破压力 Burst Pressure (bar)	传感器线束总成 Wiring harness of the transmitter
FYC-07	-0.8~7	低压侧压力测量 Pressure test to low pressure side	24	320	1.5m,3.0m,6.0m
FYC-16	-1~16	低压侧压力测量 Pressure test to low pressure side	32	320	1.5m,3.0m,6.0m
FYC-30	0~30	高压侧压力测量 Pressure test to high pressure side	60	600	1.5m,3.0m,6.0m
FYC-40	0~40	高压侧压力测量 Pressure test to high pressure side	120	800	1.5m,3.0m,6.0m

### 性能:

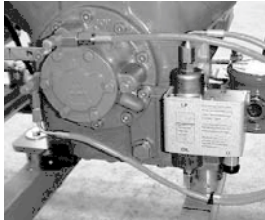
- 高伸缩性
- 不再需要铜管焊接、扩口和弯曲
- 节约系统装配时间
- 极低的制冷剂渗透率

### 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

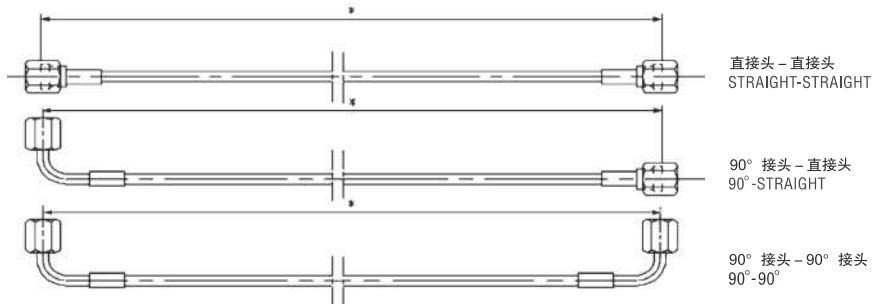


毛细热塑软管  
Capillary Thermoplastic Hose

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 return.

### 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°C ~ +130°C, 工作压力: 45bar

### Instructions for manual assembling of capillary hose ID 2mm

Working temperature -40°C ~ +130°C - 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.



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.



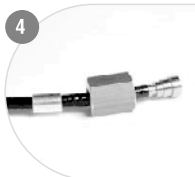
将套管穿在软管上，并使套管上的凹槽朝向软管连接处。

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



将螺母穿在软管上

Insert the nut onto the hose.



将接头插入软管内；

Push the insert inside the hose.



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.



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

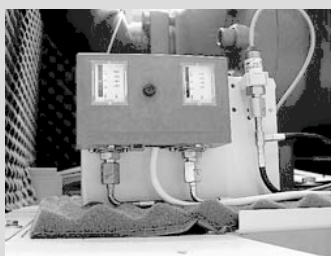
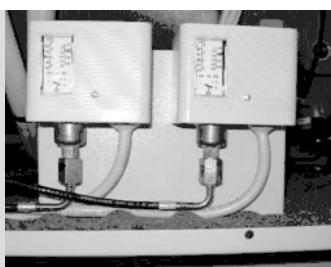
Capillary Thermoplastic Hose ID 2 mm



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°C~+130°C, 工作压力: 45bar

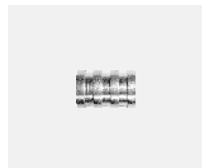
All the above sizes are available pre assembled with crimped fittings on required lengths - Working temp. -40°C~+130°C Working pressure 45 bar



## 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



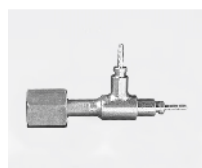
编码/Code 41100104

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

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*

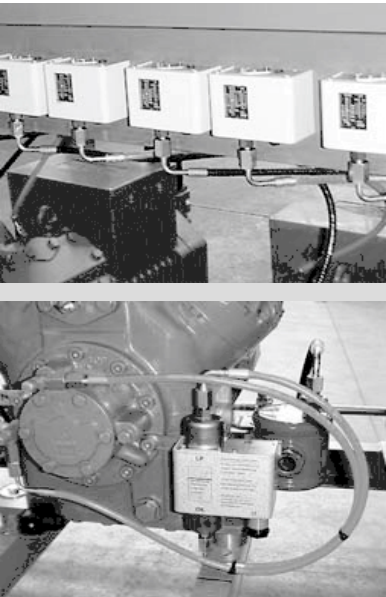


部件编号 Hose Part Number	颜色 Colour	内径 Inner Diameter	外径 Outer Diameter	公差 Tolerances	最小弯曲半径 Min Bending Radius	工作压力 Working Pressure	工作压力 Working Pressure	重量 Weight
41000101	Black	4.0 mm	8.2 mm	0.1 mm	35 mm	45 bar	653 PSI	50 g/m
41000101-B	Blue	4.0	8.2	0.1	35	45	653	50
41000101-R	Red	4.0	8.2	0.1	35	45	653	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°C~ +130°C, 工作压力: 45bar  
 All the above sizes are available pre assembled with crimped fittings on required lengths - Working temp. -40°C~ +130°C 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*

内径为软管的1/4SAE配件 1/4" SAE fittings for 1/4" 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.

<b>套管</b> <i>Sleeve</i>  编码/Code 41200106	<b>直接头</b> <i>Insert</i>  编码/Code 41200100	<b>螺母</b> <i>Nut</i>  编码/Code 41100201	<b>90° 弯接头</b> <i>Insert 90°</i>  编码/Code 41200201
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<b>三通接头</b> <i>Tee nipple</i>  编码/Code 41200102	<b>中间带螺母三通接头</b> <i>Tee female nipple</i>  编码/Code 41200202	<b>侧面带螺母三通接头</b> <i>180° Tee female nipple</i>  编码/Code 41200203	<b>销子</b> <i>Depressor</i>  编码/Code 41400100
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<b>1/4"铜垫片</b> <i>1/4" Copper gasket</i>  编码/Code 41400101	<b>便于和铜垫圈组装的特殊直插头</b> <i>Special insert for an easy assembly of copper washers</i>  编码/Code 41200105	<b>封管钳</b> <i>Hand crimper</i>  编码/Code 41500102	<b>断管钳</b> <i>Snips</i>  编码/Code 41500101
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配内径为4mm软管的3/8" SAE零件 3/8" SAE fittings for 1/4" hose ID 4mm

<b>直接头</b> <i>Insert</i>  编码/Code 41300100	<b>螺母</b> <i>Nut</i>  编码/Code 41300102	<b>90° 弯接头</b> <i>Insert 90°</i>  编码/Code 41300101	<b>3/8"铜垫片</b> <i>3/8" Copper gasket</i>  编码/Code 41400102
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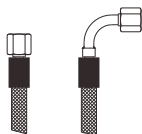
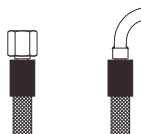
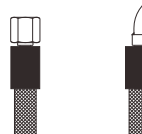
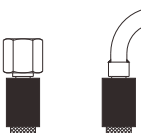
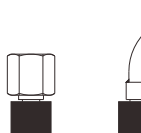
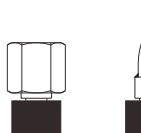
软管部件号 Hose Part Number	内径 Inner Diameter	外径 Outer Diameter	公差 Tolerances	最小弯曲半径 Min Bending Radius	工作压力 Working Pressure	工作压力 Working Pressure	重量 Weight
42000060	4.4 mm	9.7 mm	0.1 mm	50 mm	45 bar	580 PSI	80 g/m
42000080	6.5	11.9	0.10	55	45	580	100
42000100	8.5	13.9	0.15	60	45	580	120
42000130	10.5	16.0	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 °C ~ +130 °C，工作压力：45 bar

All the above sizes are available pre assembled with crimped fittings on required lengths—Working temp. -40°C ~ +130°C, 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

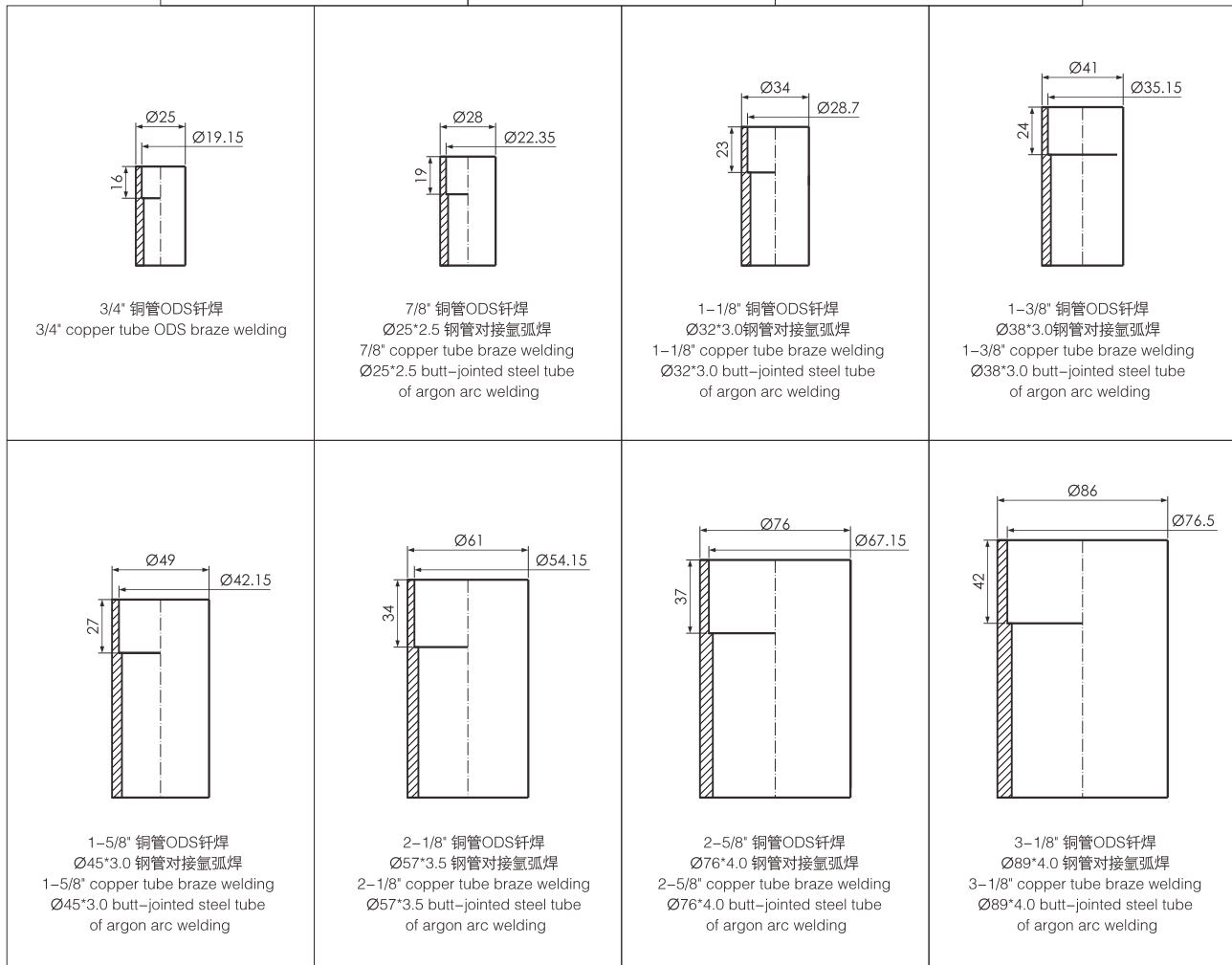
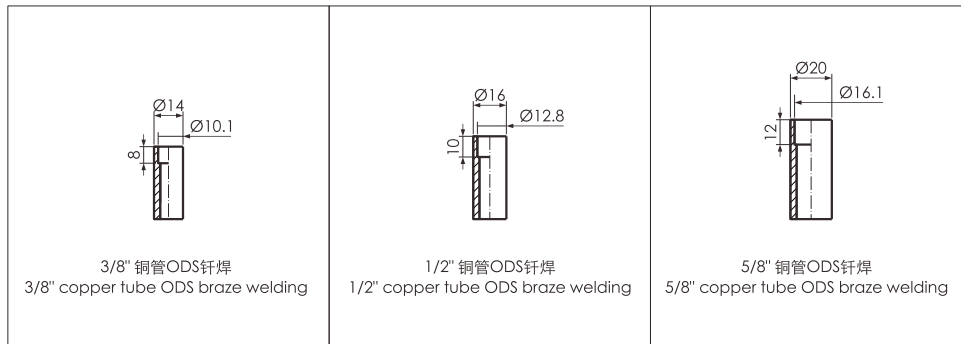
 <p>42000060 软管 Hose 1/4"SAE 直接头(7/16"-20UNF) Insert 1/4"SAE 90° 弯接头(7/16"-20UNF) Insert 90°</p>	 <p>42000080 软管 Hose 3/8"SAE 直接头(5/8"-18UNF) Insert 3/8"SAE 90° 弯接头(5/8"-18UNF) Insert 90°</p>	 <p>42000100 软管 Hose 3/8"SAE 直接头(5/8"-18UNF) Insert 3/8"SAE 90° 弯接头(5/8"-18UNF) Insert 90°</p>
 <p>42000130 软管 Hose 1/2"SAE 直接头(3/4"-16UNF) Insert 1/2"SAE 90° 弯接头(3/4"-16UNF) Insert 90°</p>	 <p>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°</p>	 <p>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°</p>

为了同时满足客户使用铜管和无缝钢管连接的不同需求，法斯克（O&F）对产品接管进行了设计改进。

- 材料：20#碳钢；
- 表面处理：镀镍。

In order to satisfy our customers' different requirements on connecting with copper tube or seamless steel tube, O&F make design improvement to the connectors of our products.

- Material: 20# carbon steel;
- Surface treatment: Nickel plating.

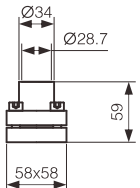
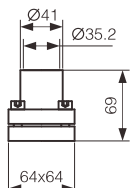
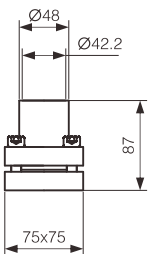
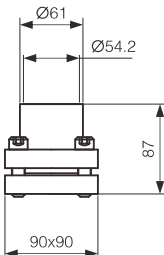
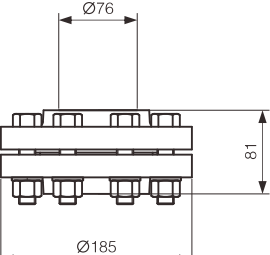
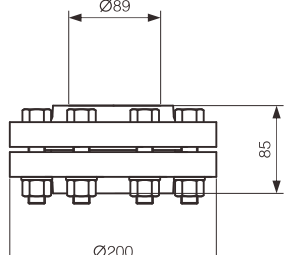
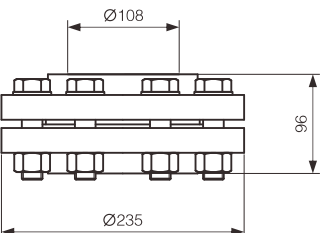
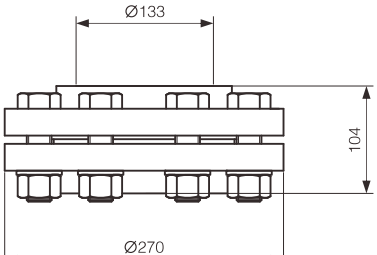
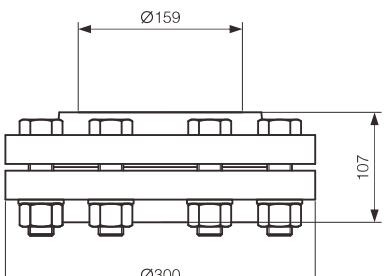


法斯克 ( O&F)氟制冷压力容器专用法兰。

O&F appropriate flange for fluorine refrigeration pressure vessel.

- 材料: 20#碳钢;
- 标准配置: 密封垫、整套螺栓。

- Material: 20# carbon steel;
- Standard fitting: Hermetic gasket and whole bolt.

 <p>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</p>	 <p>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</p>	 <p>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</p>
 <p>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</p>	 <p>Ø76 (DN65) 无缝钢管BW对焊 Ø76 (DN65) seamless steel BW</p>	 <p>Ø89 (DN80) 无缝钢管BW对焊 Ø89 (DN80) seamless steel BW</p>
 <p>Ø108 (DN100) 无缝钢管BW对焊 Ø108 (DN100) seamless steel BW</p>	 <p>Ø133 (DN125) 无缝钢管BW对焊 Ø133 (DN125) seamless steel BW</p>	 <p>Ø159 (DN150) 无缝钢管BW对焊 Ø159 (DN150) seamless steel BW</p>



# 天津市法斯克制冷设备有限公司

TIANJIN FASIKE REFRIGERATION EQUIPMENT CO., LTD.

ADD: 中国·天津市津南区双港镇梨双路双港工业园区5号 P.S.: 300350

NO.5 Shuanggang Industry Zone Jinnan District, Tianjin, China

TEL: +86-22-28571146 Http://: www.fasike.com

FAX: +86-22-28571149 E-mail: fasike@fasike.com

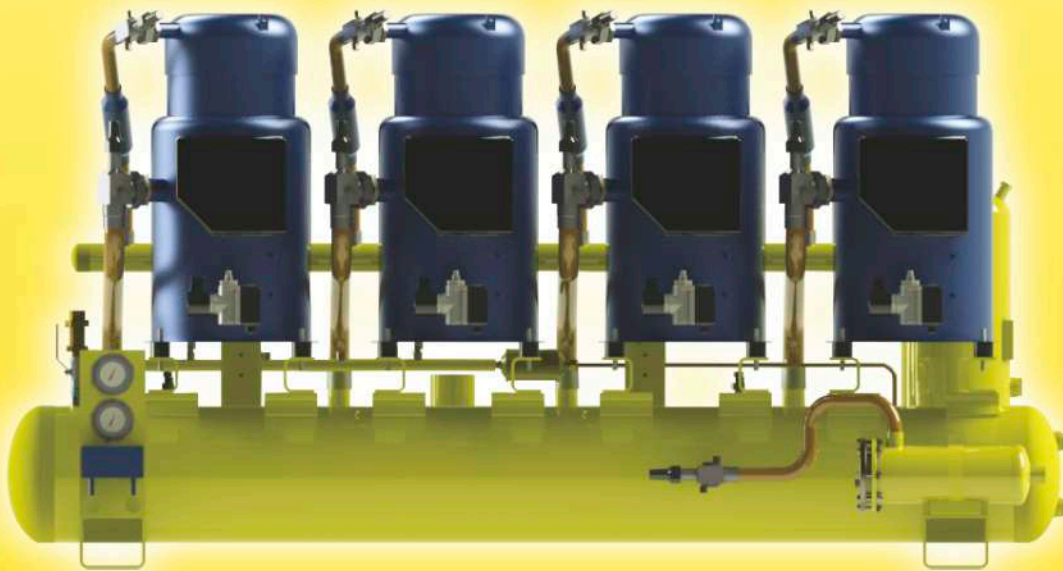
尊敬的客户:

如需要我们为您的设备提供配套产品的选型建议, 请您仔细填写下列表格。

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	压缩机台数 (并联机组)			
4	蒸发温度 (°C)			
5	冷凝温度 (°C)			
6	供液和蒸发形式	膨胀阀供液/干式蒸发	泵供液/满液式蒸发	
7	蒸发器形式	吊顶风机	蛇形钢排管	2翅铝排管
8	冷凝器形式	风冷冷凝	水冷冷凝	蒸发冷冷凝
9	螺杆机油冷却方式	风冷式	水冷式	虹吸式
10	螺杆机经济器	带经济器		不带经济器
11	制冷剂			
12	系统制冷剂充注量			
13	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。

O&F





天津市法斯克制冷设备有限公司

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