

Characteristics of self-circulating cooler

自循环冷却器

自循环冷却器特点介绍：

- 高性能高可靠性，产品设计成熟，自循环冷却系统运行可靠性远远高于其他形式的冷却系统，并能实现自动控制温度的要求；
- 适用性广，能满足如：防爆，防尘，防浪，煤安，严寒，高原等特殊场合的要求；
- 性价比比高，相对其他形式的冷冻机，润滑系统价格占绝对优势；
- 结构紧凑使用方便，可做成便携移动式；
- 我公司自循环冷却器包括DELP系列，DELS系列，DEG系列，DWS系列，DWG系列。



- It is of high-performance, high-reliability, maturely-designed, the reliability of whose self-circulating cooling system, which can meet the demand of controlling the temperature automatically, is much higher than other cooling ones.
- It is widely applicable to all kinds of conditions, which need to be explosion-proof, dustproof, waveproof, colliery-safe, frost-resisting, anti-plateau.
- Being of high cost-performance, it's lubricating system is much cheaper than that of other kinds of refrigerating machines.
- Because it's structure is compact, it is easy to carry and operate, what'more, it can be made portable.
- Self-circulating coolers by our company include series of DELP, DELS, DEG, DWS, DWG.

Auto-circulating Cooling Series

Enumeration of models 型号说明

DEL P - 4 - F - 032 - 4 - A - 10 - T - 55 - 0 - Ex
1 2 3 4 5 6 7 8 9 10 11

1. Serial number

P: Oil pump preposed
S: Oil pump post-positive

2. Sizes of cooler

2, 3, 3B, 4, 4B, 5, 6, 7, 8, 9, 10, 11

3. Filter

F = Containing filter None = No filter

4. Output volume of oil pump

005, 008, 010, 012, 020, 032

5. Rotation rate of wind vane

4P 1500rpm=4, 6P 1000rpm=6, 8P 750rpm=8

6. Voltage and frequency

3ϕ 220/380V 50Hz =A
3ϕ 380/660V 50Hz =B
3ϕ 660/1140V 50Hz =C
3ϕ 220-240/380-420V 50Hz; 440/480V 60Hz =E
Others (to be introduced verbally) =***

7. Precision of filter

10μm=10, 20μm=20

8. Built-in temperature bypass valve

Normative(45-55°C) = T
Pressure bypass-valve = P
None = 0
Other(explain orally) = X

9. Temperature switch

45°C=45 55°C=55 65°C=65
75°C=75 None=00

10. Normative direction of exit

Normative = 0 Special = Z

11. Applicable conditions

Not explosion-proof = None
Exd I explosion-proof = EX
Exd II explosion-proof = EX2

ATTENTION:

If you have any special requirements, please explain to us in speech.

1. 系列号

P: 油泵前置 S: 油泵后置

2. 冷却器尺寸

2, 3, 3B, 4, 4B, 5, 6, 7, 8, 9, 10, 11

3. 过滤器

F = 含过滤器 无 = 无过滤器

4. 油泵排量

005, 008, 010, 012, 020, 032

5. 风叶转速

4P 1500rpm=4, 6P 1000rpm=6, 8P 750rpm=8

6. 电压和频率

3ϕ 220/380V 50Hz =A
3ϕ 380/660V 50Hz =B
3ϕ 660/1140V 50Hz =C
3ϕ 220-240/380-420V 50Hz; 440/480V 60Hz =E
其他(用明语说明) =***

7. 过滤器精度

10μm=10, 20μm=20

8. 内置温度旁通阀

标准(45-55°C) = T
压力旁通阀 = P
无 = 0
其他(用明语说明) = X

9. 温度开关

45°C=45 55°C=55 65°C=65
75°C=75 None=00

10. 标准出口方向

标准 = 0 = Z

11. 适用工况

非防爆 = None无
Exd I 类防爆 = EX
Exd II 类防爆 = EX2

注：如有特殊要求，用明语说明！

DELP series Self-circulating wind-cooler (precise type) 自循环风冷却器（精密型）



Mainly used for :

Conditions requesting high-precision and large flux, in which returning-oil pulses and returning-oil cooling are difficult to meet demands, and in which little room is to be occupied. For example, hydraulic pressure system, lubricating system, extruding machinery, forging and stamping equipments, shearing machines, gearbox, large bearings.

Features

1. Patented ideotype design
2. All high-quality stamping structure through numerical control machining.
3. Imported circulating oil pump, which is of reliable quality and of little cubage.
4. Imported electrical motor with good-looking appearance, whose wind blades are of reliable-quality .
5. Processed by flame plating of phosphorization plus static electricity at the surface, having excellent anticorrosion performance.
6. Adopt B3 patten to install the electrical motor, avoiding hidden troubles of cantilever beam, reducing shock, and making the structure stronger.
7. High-quality and precise filter (may be selected to match with your cooler)

DELP主要运用于：

高精度，大流量，有回油脉冲，回油冷却很难满足要求并要求占地面积小的场合。
如：液压系统、润滑系统、挤压机械、锻压设备、剪切机、齿轮箱、大型轴承.....

特点介绍：

- 专利外型设计
- 高品质钣金结构件，全部数控加工
- 进口循环油泵，质量可靠，体积小
- 进口电机，风叶质量可靠，外型美观
- 表面磷化加静电喷涂处理，防腐性能优越
- 电机采用B3安装方式，避免了悬臂梁结构的隐患，减小震动，结构坚固
- 高品质精密过滤器（可选配）

Technical Data 技术参数

Type 型号	Cooling Capacity [kW/°C] 比散热量	Oil Pump Flow [L/min] 油泵流量	Fan Diameter [mm] 风扇直径	Noise level [dB(A),1m] 噪声	Motor Frequency [Hz] 电机频率	Motor Voltage [V] 电机电压	Fan Power [kw] /Number of Poles 风扇功率/极数	Oil Pump Power [kw] /Number of Poles 油泵功率/极数	Maximum Working Pressure [bar] 最高工作压力
DELP4B	0.36	42~55	400	79	50	380	1.5/4	1.5/4	16
DELP5	0.45	42~55	450	80	50	380	1.5/4	1.5/4	16
DELP6	0.55	42~55	500	82	50	380	1.5/4	1.5/4	16

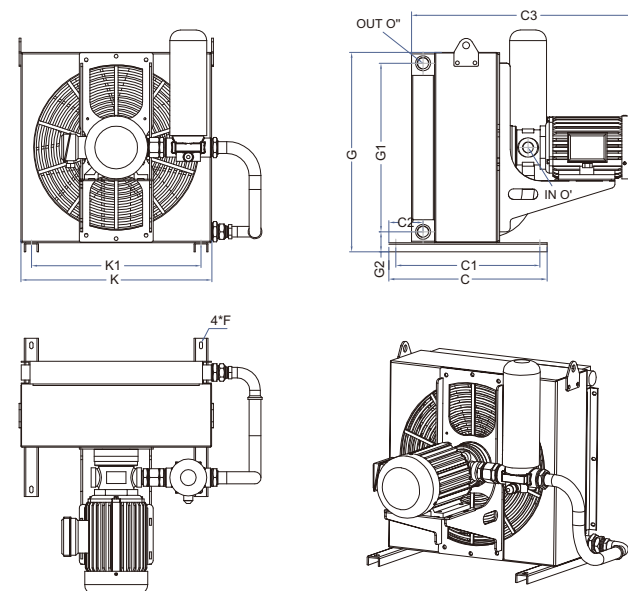
The technical data :

Rated inlet temperature: 90°C (below 130°C can be custom made)

技术参数：

额定入口温度：90°C (130°C以下可订制)

Dimension & parameters of DELP 外形尺寸和参数



Dimension 外形尺寸

Make sure you can select the right cooler, please contact us ※ 为保证冷却器选型的准确性，请与迪奥公司电话联系。

Type 型号	G ±10	K ±10	C ±2	G1 ±5	G2 ±5	K1 ±2	K2 ±2	C1 ±2	C2 ±5	C3 ±5	O' ±5	O'' ±5	F Φ/slot
DELP4B	525	486	450	439	56	425	164	410	98	675	G1*	G1*	9*20
DELP5	565	545	450	479	56	482	164	410	98	675	G1*	G1*	9*20
DELP6	645	585	450	500	86	482	164	410	98	675	G1*	G1-1/4*	9*20

DELS series Self-circulating wind-cooler (normative) 自循环风冷却器 (标准型)



DELS-XX

Mainly used for :

Conditions requesting high-precision and large flux, in which returning-oil pulses and returning-oil cooling are difficult to meet demands. For example, hydraulic pressure system, lubricating system, extruding machinery, embedding equipments, shearing machines, gearbox, large bearings.

Features

1. Patented ideotype design
2. All high-quality stamping structure through numerical control machining
3. Imported electrical motor with good-looking appearance, whose wind blades are of reliable-quality
4. Processed by flame plating of phosphorization plus static electricity at the surface, having excellent anticorrosion performance.
5. Adopt B3 patten to install the electrical motor, avoiding hidden troubles of cantilever beam, reducing shock, and making the structure stronger.
6. High-quality and precise filter (may be selected to match with your cooler)



DELSL-XX

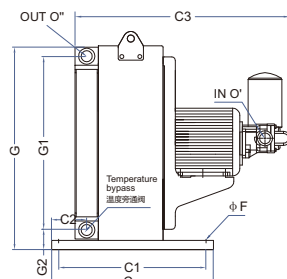
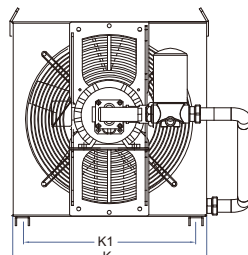
DELS主要用于：

高精度、大流量，有回油脉冲或回油冷却很难满足要求的场合。如：液压系统、润滑系统、挤压机、锻压设备、剪切机、齿轮箱、大型轴承等。

特点介绍：

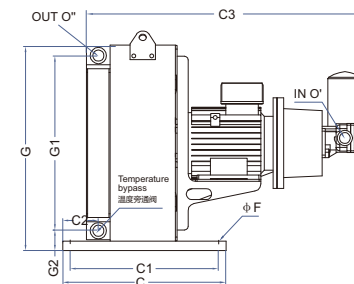
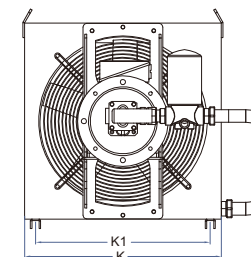
- 专利外型设计；
- 高品质钣金结构件，全部数控加工；
- 进口电机，风叶质量可靠，外型美观；
- 表面磷化加静电喷涂处理，防腐性能优越；
- 电机采用B3安装方式，避免了悬臂梁结构的隐患，减小震动，结构坚固。
- 高品质精密过滤器（可选配）。

DELS-XX



Dimension of DELS 外形尺寸

DELSL-XX



Dimension 外形尺寸

Make sure you can select the right cooler, please contact us ※ 为保证冷却器选型的准确性，请与迪奥公司电话联系。

Type 型号	G ±10	K ±10	C ±2	G1 ±5	G2 ±5	K1 ±2	C1 ±2	C2 ±5	C3 ±5	O'	O*	F Φ/slot
DELS2	366	335	400	289	52	160	360	58	590	18L/min以下为G3/4" 24-37L/min为G1 48L/min以上为 SAE 1-1/2"	G3/4"	9*12
DELSL2	366	335	400	289	52	160	360	58	690		G3/4"	9*12
DELS3B	466	385	450	389	52	290	410	66	620		G3/4"	9*12
DELSL3B	466	385	450	389	52	290	410	66	720		G3/4"	9*12
DELS4B	525	468	450	439	56	425	410	98	710		G1"	9*20
DELSL4B	525	468	450	439	56	425	410	98	810		G1"	9*20
DELS5	565	545	450	479	56	482	410	98	710		G1"	9*20
DELSL5	565	545	450	479	56	482	410	98	810		G1"	9*20
DELS6	645	585	450	500	86	482	410	98	710		G1-1/4"	9*20
DELSL6	645	585	450	500	86	482	410	98	834		G1-1/4"	9*20
DELS7	738	708	500	630	70	560	460	98	820	SAE 1-1/2"	G1-1/4"	9*20
DELSL7	738	708	500	630	70	560	460	98	964	SAE 1-1/2"	G1-1/4"	9*20
DELS8	866	700	500	760	68	500	460	98	820	SAE 1-1/2"	G1-1/4"	9*20
DELSL8	866	700	500	760	68	500	460	98	964	SAE 1-1/2"	G1-1/4"	9*20
DELS9	880	790	790	770	75	700	750	119	970	SAE 1-1/2"	G1-1/2"	14*23
DELSL9	880	790	790	770	75	700	750	119	1114	SAE 1-1/2"	G1-1/2"	14*23
DELS10	1040	930	790	890	95	700	750	113	980	SAE 1-1/2"	G1-1/2"	14*23
DELSL10	1040	930	790	890	95	700	750	113	1148	SAE 1-1/2"	G1-1/2"	14*23
DELS11	1220	1050	790	1060	100	700	750	113	1028	SAE 1-1/2"	G1-1/2"	14*23
DELSL11	1220	1050	790	1060	100	700	750	113	1196	SAE 1-1/2"	G1-1/2"	14*23

Entrance sizes of oil pumps are finally decided by confirmed drawings of our company.

Sizes of C3 explosion-proof model are finally decided by drawings of our company.

*油泵入口 O' 尺寸以我公司确认图纸为准

**防爆型C3尺寸以我公司图纸为准

Technical data of DELS 技术参数

Type 型号	Cooling Capacity [KW/°C] 比散热量	Oil Pump Flow [L/min] 油泵流量	Fan Diameter [mm] 风扇直径	Motor Frequency [Hz] 电机频率	Motor Voltage [V] 电机电压	Consumed Power [kw] 消耗功率	Number of Poles [P] 电机级数	Noise level [dB(A), 1m] 噪声	Maximum Working Pressure [bar] 最高工作压力
DELS2	0.075	6~27	250	50	380	0.75	4	75	16
	0.094	34~55	250	50	380	1.5	4	75	16
DELS3B	0.15	6~27	300	50	380	0.75	4	77	16
	0.18	34~55	300	50	380	1.5	4	77	16
DELS4B	0.30	6~27	400	50	380	0.75	4	79	16
	0.36	34~55	400	50	380	1.5	4	79	16
DELS5	0.50	6~55	450	50	380	1.5	4	80	16
DELS6	0.55	30~55	500	50	380	1.5	4	82	16
	0.60	60~90	500	50	380	2.2	4	82	16
DELS7	0.72	60~90	630	50	380	3	6	78	16
	0.85	94~120	630	50	380	4	4	85	16
DELS8	0.91	60~90	630	50	380	3	6	78	16
	1.11	94~120	630	50	380	4	4	85	16
DELS9	1.30	60~90	700	50	380	3	6	79	16
	1.52	94~120	700	50	380	5.5	4	88	16
DELS10	1.61	70~120	800	50	380	5.5	6	81	16
	1.84	70~120	800	50	380	7.5	4	95	16
DELS11	2.1	70~120	900	50	380	5.5	6	89	16
	2.6	70~120	900	50	380	7.5	4	98	16

Optional components:

1. Filter
2. Built-in temperature by-pass valve
3. Built-in pressure by-pass valve
4. Temperature alarm switch
5. Pressure alarm switch

6. Flow alarm switch
7. Filter clogging alarm
8. Pressure gauge
9. Thermometer
10. Pressure-measuring connector

选配部件：

1. 过滤器
2. 内置温度旁通阀
3. 内置压力旁通阀
4. 温度报警开关
5. 压力报警开关
6. 流量报警开关
7. 过滤器堵塞报警
8. 压力表
9. 温度表
10. 测压接头

DEG series



DEG主要用于：

对温度控制要求较高的大型设备，如冶炼设备、大型减速机、核电工程等要求、高寿命的场合。

特点介绍：

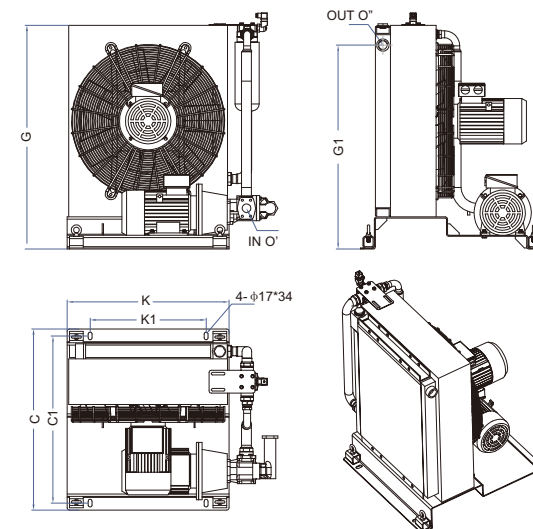
冷却风扇和油泵电机可单独运行，控制温度精准，可选配过滤器与压力、流量、温度控制报警部件。

Mainly used for :

For high temperature control requirements of large equipments, such as smelting equipments, large-scale reduction boxes, such as nuclear power engineering requirements, the occasions of long lifespan.

Features

The cooling fan and the pump motor can run separately, controlling the temperature accurately. Optional filters and pressure, flux, temperature controlling alarm components are available.



Dimension 外形尺寸

Make sure you can select the right cooler, please contact us ※ 为保证冷却器选型的准确性，请与迪奥公司电话联系。

Type 型号	G	K	C	G1	K1	C1	O'	O*
DEG01	516	365	720	405	165	660	G1"--G3/4"	G1"
DEG02	640	485	780	609	300	725	G1"--G3/4"	G1"
DEG03	682	542	790	650	342	730	G1"	G1"
DEG04	760	584	790	700	342	730	G1"	G1-1/4"
DEG05	850	706	790	810	506	730	1-1/2"SAE	G1-1/4"
DEG06	976	706	790	890	506	730	1-1/2"SAE	G1-1/4"
DEG07	1010	868	835	906	668	775	1-1/2"SAE	G2"
DEG08	1140	1050	985	1085	850	925	1-1/2"SAE	G1-1/2"
DEG09	1320	1050	985	1260	850	925	2"SAE	G1-1/2"

Technical data of DEG 技术参数

Type 型号	Cooling Capacity [kW/C] 比散热量	Hydraulic system configuration 液压系统配置				Lubrication system configuration 润滑系统配置				Fan Power [kw] 风泵功率
		Oil Flow [L/min] 油流量	Pump models 泵型号	Pressure relief valve [bar] 溢流阀压力	Pump Power [kw] 泵功率	Oil Flow [L/min] 油流量	Pump models 泵型号	Pressure relief valve [bar] 溢流阀压力	Pump Power [kw] 泵功率	
DEG01	0.18	21	Dk16	8	0.55	18	Dk12	15	0.75	0.25
DEG02	0.3	21	DK16	8	0.55	18	DK12	15	0.75	0.55
DEG03	0.42	34	DK25	8	1.1	28	DK20	15	1.5	0.55
DEG04	0.55	34	DK25	8	1.1	28	DK20	15	1.5	0.75
DEG05	0.65	56	DK40	8	1.5	40	DK32	15	2.2	1.5
DEG06	0.82	75	DK50	8	2.2	56	DK40	15	2.2	2.2
DEG07	1.1	120	DK80	8	4	75	DK50	15	3	2.2
DEG08	1.5	120	DK80	8	4	100	DK63	15	4	3
DEG09	2.2	160	DK112	8	5.5	160	DK112	15	7.5	4

Optional components:

1. Filter
2. Built-in temperature by-pass valve
3. Built-in pressure by-pass valve
4. Temperature alarm switch
5. Pressure alarm switch

6. Flow alarm switch
7. Filter clogging alarm
8. Pressure gauge
9. Thermometer
10. Pressure-measuring connector

选配部件:

1. 过滤器
2. 内置温度旁通阀
3. 内置压力旁通阀
4. 温度报警开关
5. 压力报警开关
6. 流量报警开关
7. 过滤器堵塞报警
8. 压力表
9. 温度计
10. 测压接头

Enumeration of DWS2 and DWG 型号说明

Mainly used for :

DWS Series of coolers are applied to cooling in hydraulic and lubricating systems working where the temperature is fairly high and installing space is cabined.

The technical data :

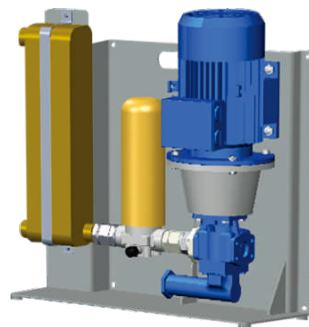
Rated inlet temprature:
90°C (below 130°C can be custom made)

适用范围 :

环境温度较高、安装空间狭窄的液压、润滑系统的冷却。

技术参数 :

额定入口温度 : 90°C (130°C以下可订制)



Instructions of DWS, DWG 型号说明

DWS - 02 - 032 - F - 30 - A - 0 - 00 - S03 - Ex
1 2 3 4 5 6 7 8 9 10

1. Serial number : DWS, DWG water cooling system

2. Sizes of coolers : 01, 02, 03, 04, 05, 06, 07

3. Oil pump displacement : 005, 008, 010, 012, 020

4. Filter : F = with filter , None = without filter

5. Precision of filter : 10μm=10, 20μm=20, 30μm=30

6. Voltage and frequency

3φ 220/380V 50Hz =A
3φ 380/660V 50Hz =B
3φ 660/1140V 50Hz =C
3φ 220-240/380-420V 50Hz; 440/480V 60Hz =E
Others (to be introduced verbally) =**

7. Built-in bypass valve

Normative(45-55°C) = T
Pressure bypass-valve = P
None = 0

8. Temperature switch

45°C=45 55°C=55 65°C=65
75°C=75 None无=00

9. Low voltage protection switch

0.3bar = S03 0.8bar = S08 None = None

10. Applicable conditions

Not explosion-proof = None
Exd I explosion-proof =EX
Exd II explosion-proof =EX2

ATTENTION:

If special requirements are needed, please explain orally.

1. 系列号 : DWS DWG 水冷系统

2. 冷却器尺寸 : 01, 02, 03, 04, 05, 06, 07

3. 油泵排量 : 005, 008, 010, 012, 020

4. 过滤器 : F = 含过滤器 , 无 = 无过滤器

5. 过滤器精度 : 10μm=10, 20μm=20, 30μm=30

6. 电压和频率

3φ 220/380V 50Hz =A
3φ 380/660V 50Hz =B
3φ 660/1140V 50Hz =C
3φ 220-240/380-420V 50Hz; 440/480V 60Hz =E
其他 (用明语说明) =**

7. 内置旁通阀 :

标准(45-55°C) = T, 压力旁通 = P, 无 = 0

8. 温度开关

45°C=45 55°C=55 65°C=65
75°C=75 None无=00

9. 低压保护开关

0.3bar = S03 0.8bar = S08 无 = 无

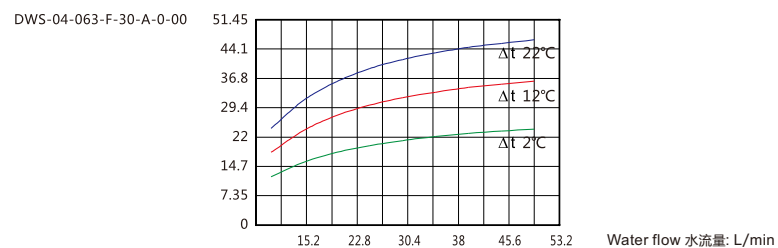
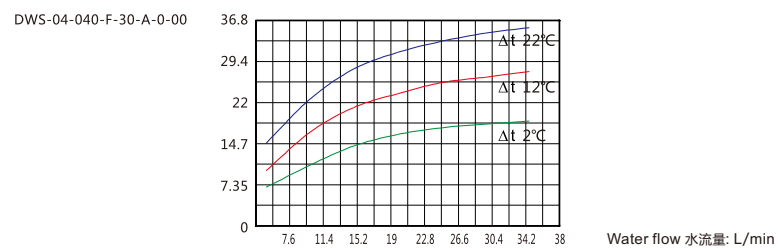
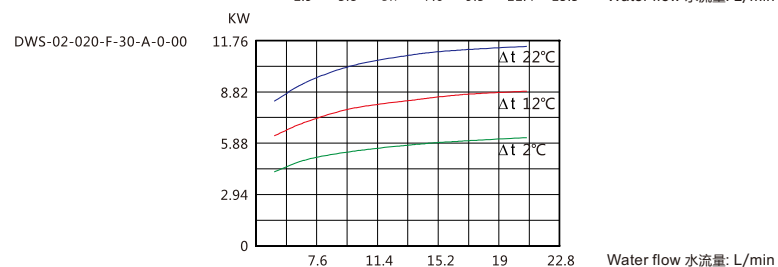
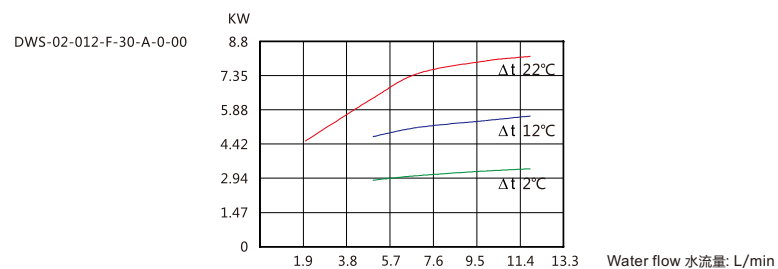
10. 适用工况

非防爆 = 无
Exd I 类防爆 =EX
Exd II 类防爆 =EX2

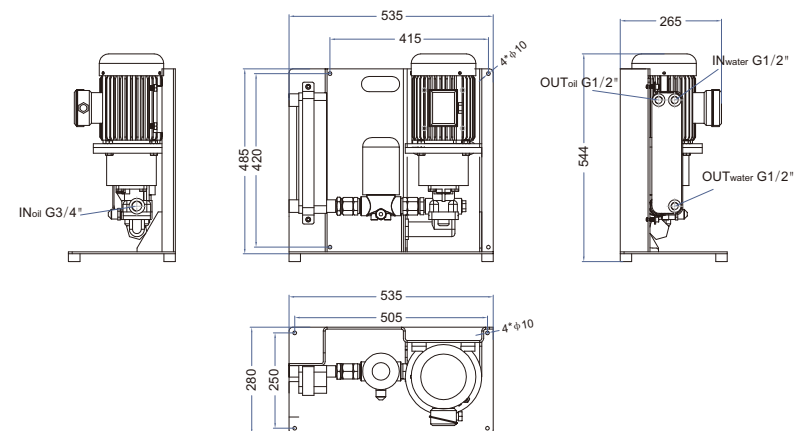
注 : 如有特殊要求 , 用明语说明 !

Input parameter of performance curve
Quality of oil : ISO VG46
Temperature of inpouring oil : 60°C

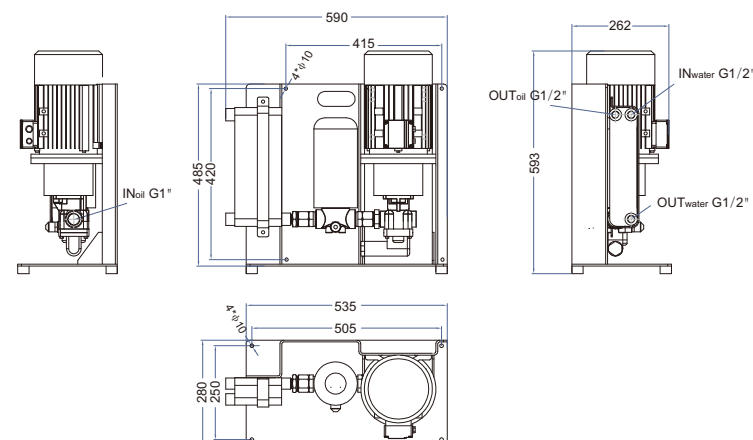
性能曲线输入参数
油品: ISO VG46
进油温度: 60°C



DWS2-02-012-F-30-A-0-00

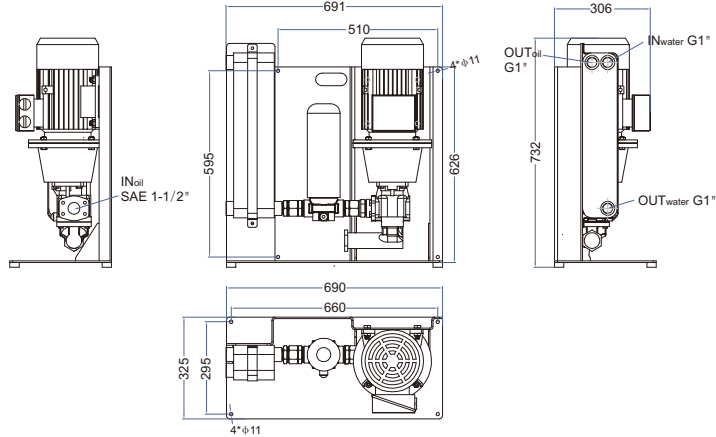


DWS2-02-020-F-30-A-0-00

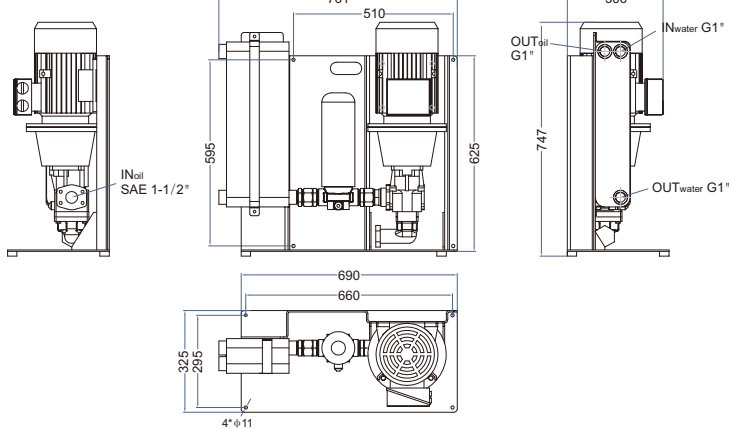


Dimension & parameters of DWS2 外形尺寸和参数

DWS2-04-040-F-30-A-0-00



DWS2-04-063-F-30-A-0-00

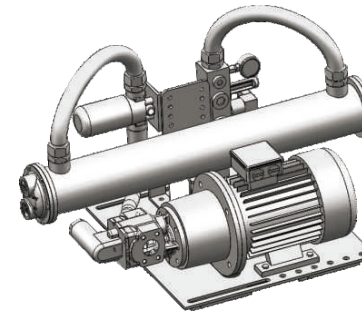


Technical data 技术参数

Type 型号	Fragment number 冷却器片数	Oil Pump Flow [L/min] 油泵流量	Motor Frequency [Hz] 电机频率	Voltage [V] 电压	Defending grade [IP] 防护等级	Dissipated Power [kw] 消耗功率	Number of Poles [P] 电机级数	Noise level [dB(A),1m] 噪声	Maximum Working Pressure [bar] 最高工作压力
DWS-02-012-F-30-A-0-00	30-40	17	50	380	55	0.55	4	65	10
DWS-02-025-F-30-A-0-00	40-60	34	50	380	55	1.1	4	65	10
DWS-04-050-F-30-A-0-00	40-60	69	50	380	55	2.2	4	65	10
DWS-04-063-F-30-A-0-00	70-90	90	50	380	55	3.0	4	65	10

DWG series

Mainly applied to cooling of reduction box and gear box
主要用于减速机、齿轮箱油冷却



Characteristics :

- Design of efficient aluminum perking slices greatly increase area of heat exchange beside oil.
- When equipped with stainless steel of 304 model or navy steel, and 90/10 colomony tubes which we provide, it is competent for seawater cooling and working in highly- polluted conditions.
- With efficient gear-conveying pump, they have lower noises and longer lifespan.

Technical data :

Rated inlet temprature:
90°C (below 130°C can be custom made)

特性 :

- 油侧高效铝翅片设计，极大的增加了油侧换热面积；
- 半圆形翅片结构设计减小了旁路油流量，提高了散热效率；
- 可提供304不锈钢或海军铜、90/10铜镍管特殊要求，可适应高污染和海水冷却的要求；
- 高效齿轮输送泵设计，噪音更低，寿命更长。

技术参数 :

额定入口温度：90°C (130°C以下可订制)

Technical data 技术参数

Type 型号	Cooling Capacity [KW/°C] 比散热量	Hydraulic system configuration 液压系统配置				Lubrication system configuration 润滑系统配置				Fan Power [kw] 风扇功率
		Oil Flow [L/min] 油流量	Pump models 泵型号	Pressure relief valve [bar] 溢流阀压力	Pump Power [kw] 泵功率	Oil Flow [L/min] 油流量	Pump models 泵型号	Pressure relief valve [bar] 溢流阀压力	Pump Power [kw] 泵功率	
DWG01	0.18	21	Dk16	8	0.55	18	Dk12	15	0.75	15
DWG02	0.25	21	DK16	8	0.55	18	DK12	15	0.75	15
DWG03	0.42	34	DK25	8	1.1	28	DK20	15	1.5	20
DWG04	0.6	56	DK40	8	1.5	40	DK32	15	2.2	40
DWG05	0.8	75	DK50	8	2.2	56	DK40	15	2.2	50
DWG06	1.1	120	DK80	8	4	56	DK40	15	2.2	50
DWG07	1.5	120	DK80	8	4	75	DK50	15	3	75
DWG08	1.8	160	DK112	8	5.5	100	DK63	15	4	120
DWG09	2.2	200	DK150	8	5.5	160	DK112	15	7.5	200

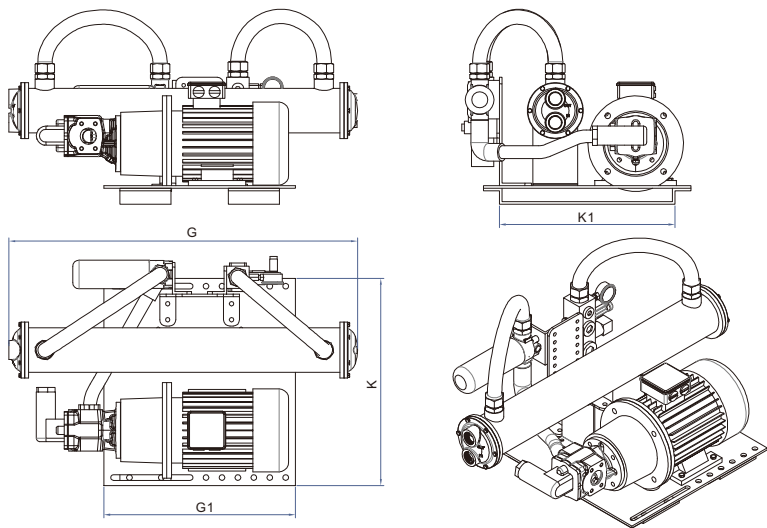
Optional components:

1. Filter
2. Built-in temperature by-pass valve
3. Built-in pressure by-pass valve
4. Temperature alarm switch
5. Pressure alarm switch
6. Flow alarm switch
7. Filter clogging alarm
8. Pressure gauge
9. Thermometer
10. Pressure-measuring connector

选配部件：

1. 过滤器
2. 内置温度旁通阀
3. 内置压力旁通阀
4. 温度报警开关
5. 压力报警开关
6. 流量报警开关
7. 过滤器堵塞报警
8. 压力表
9. 温度计
10. 测压接头

» Dimension of DWG 外形尺寸



Dimension 外形尺寸

Make sure you can select the right cooler, please contact us ※ 为保证冷却器选型的准确性，请与迪奥公司电话联系。

Type 型号	G	G1	K	K1	O'	O"	S
DWG01	570	360	420	330	G1"--G3/4"	G1"	G1"
DWG02	680	360	420	330	G1"--G3/4"	G1"	G1"
DWG03	986	360	420	330	G1"	G1"	G1"
DWG04	734	480	530	400	1-1/2"SAE	G1-1/4"	G1-1/4"
DWG05	734	480	530	400	1-1/2"SAE	G1-1/4"	G1-1/4"
DWG06	978	480	530	400	1-1/2"SAE	G1-1/4"	G1-1/4"
DWG07	978	480	530	400	1-1/2"SAE	G1-1/4"	G1-1/4"
DWG08	978	600	650	550	2"SAE--G1-1/2"	G2"	G1-1/4"
DWG09	1093	600	650	550	3"-2"SAE	G2"	G1-1/4"