



OFFICINE MARIO DORIN SINCE 1918

**DORIN**<sup>®</sup>  
INNOVATION



## CDS 系列

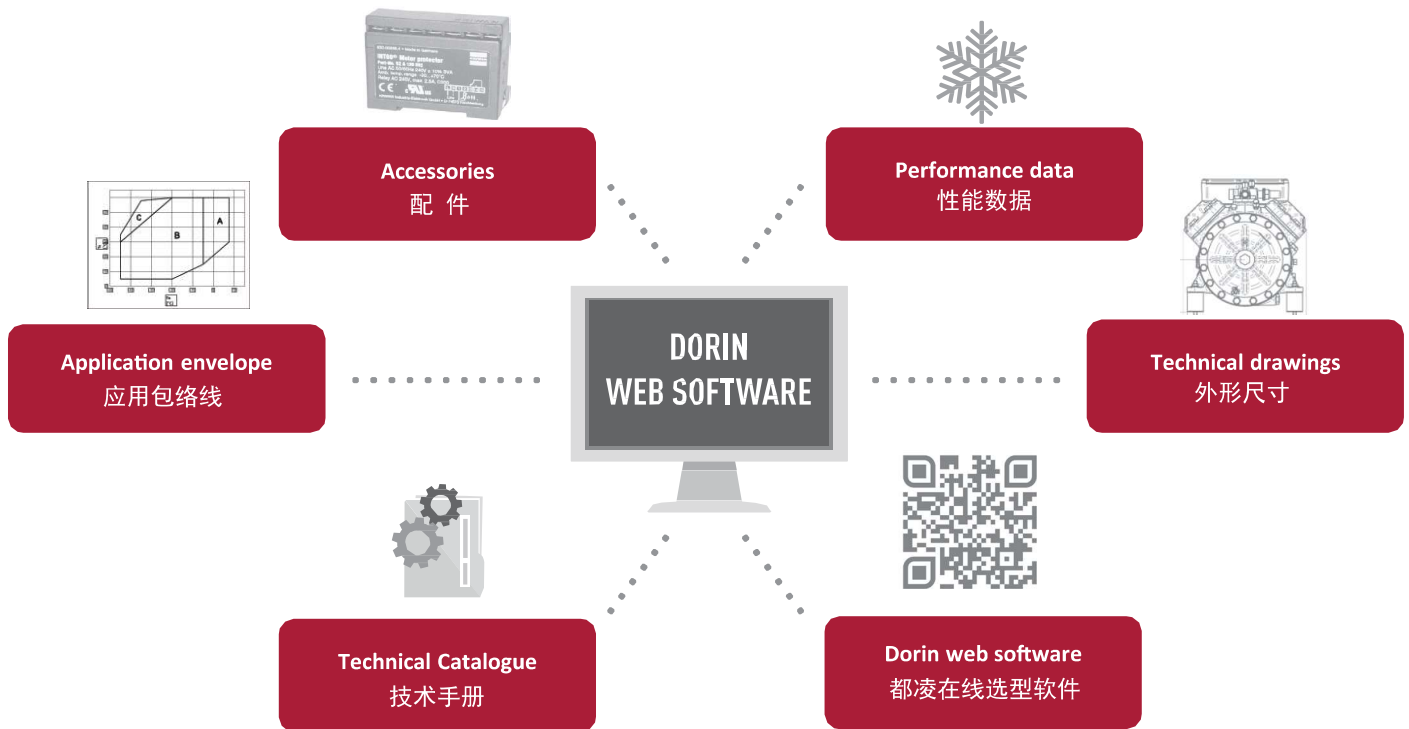
SEMI-HERMETIC MOTOR COMPRESSORS  
SUBCRITICAL CO<sub>2</sub> APPLICATION - 50/60 Hz

二氧化碳亚临界压缩机系列  
亚临界CO<sub>2</sub>应用50/60Hz



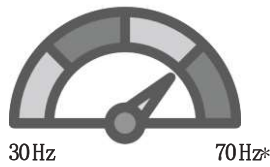
## DORIN Web Software

都凌（在线）选型软件



## Frequency Range

变频范围



\* Maximum operating frequency to be checked in the dedicated technical bulletin

\* 最大运行频率须参阅专门的技术手册

## Factory certifications

都凌工厂认证

ISO 45001:2018

ISO 9001:2015

## Compressor certifications

都凌压缩机认证



## Compressor design pressure

压缩机设计压力

**36 bar**

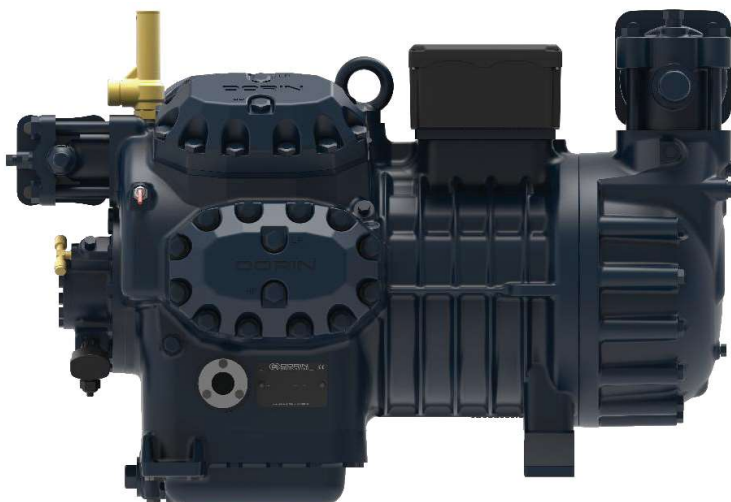
Standstill pressure  
静止压力

**55 bar**

Max discharge pressure  
最大排气压力

## CDS SERIES Technical Features

## CDS系列产品特点

**Silent operations and low vibrations**

运行安静流畅，振动水平低

**Crankshafts balanced individually and excellent fluid dynamics studies are our strengths**

曲轴能够独立平衡运转，这得益于我们出色的流体动力学研究

**All models VFD compatible**

所有型号可变频运行

**Bore / Stroke values and generous motor sizings allow wide frequency ranges**

电机、缸径、行程的优化配比使之可以实现宽频运行

**Highest levels of efficiency**

优异的运行效率

**Using latest coating technologies for reducing frictions and improving lubrication**

采用最新的涂层技术来减少摩擦和改善润滑

**Peculiar oil containment system for extra low oil carry-over for models with oil pump**

专利认证的油气分离系统，可显著降低带油泵型号的带油率

**Higher system efficiency, less oil injections from the oil-separator for higher oil viscosity in the compressor sump**

更高的系统效率，油分离器中的润滑油量大幅减少，压缩机中油的粘度得以提高

**2 years standard warranty**

两年标准质保

**All compressors suitable for subcritical CO<sub>2</sub>**

所有压缩机适用于亚临界CO<sub>2</sub>应用

**Salt spray resistance test, certified for 1000 hours (NSS test in accordance with UNI EN ISO 4628, parts 2,3,8- Assessment method : UNI EN ISO 9227**

盐雾耐受性测试，已通过1000小时认证（根据UNI EN ISO 4628第2、3、8部分的评估方法进行NSS测试）：UNI EN ISO 9227

**Unique 8 cylinders compressor for subcritical CO<sub>2</sub>**

独特的八缸亚临界CO<sub>2</sub>压缩机

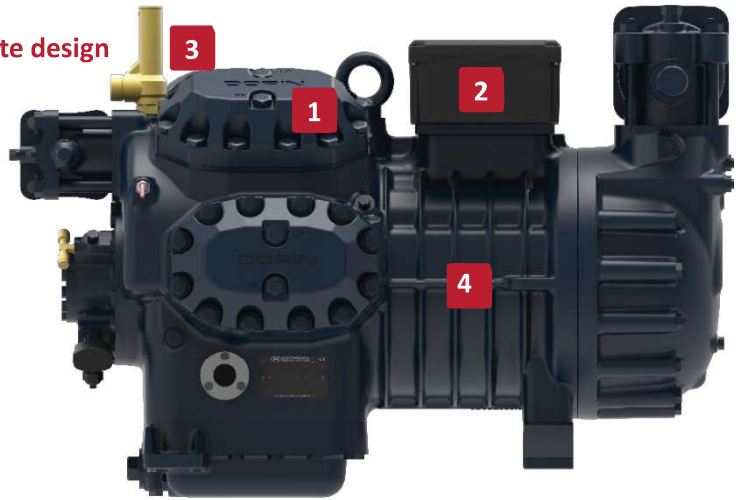
**Outstanding cooling capacity thanks to the huge compressor displacement CDS 6001B 200 kW @-30°C / 0°C (60 Hz)**

大排量压缩机的问世，让单台压缩机的制冷能力得到了显著提升，如CDS6001B机型制冷量高达200kW @-30°C/0°C (60Hz)

CDS SERIES Technical Features

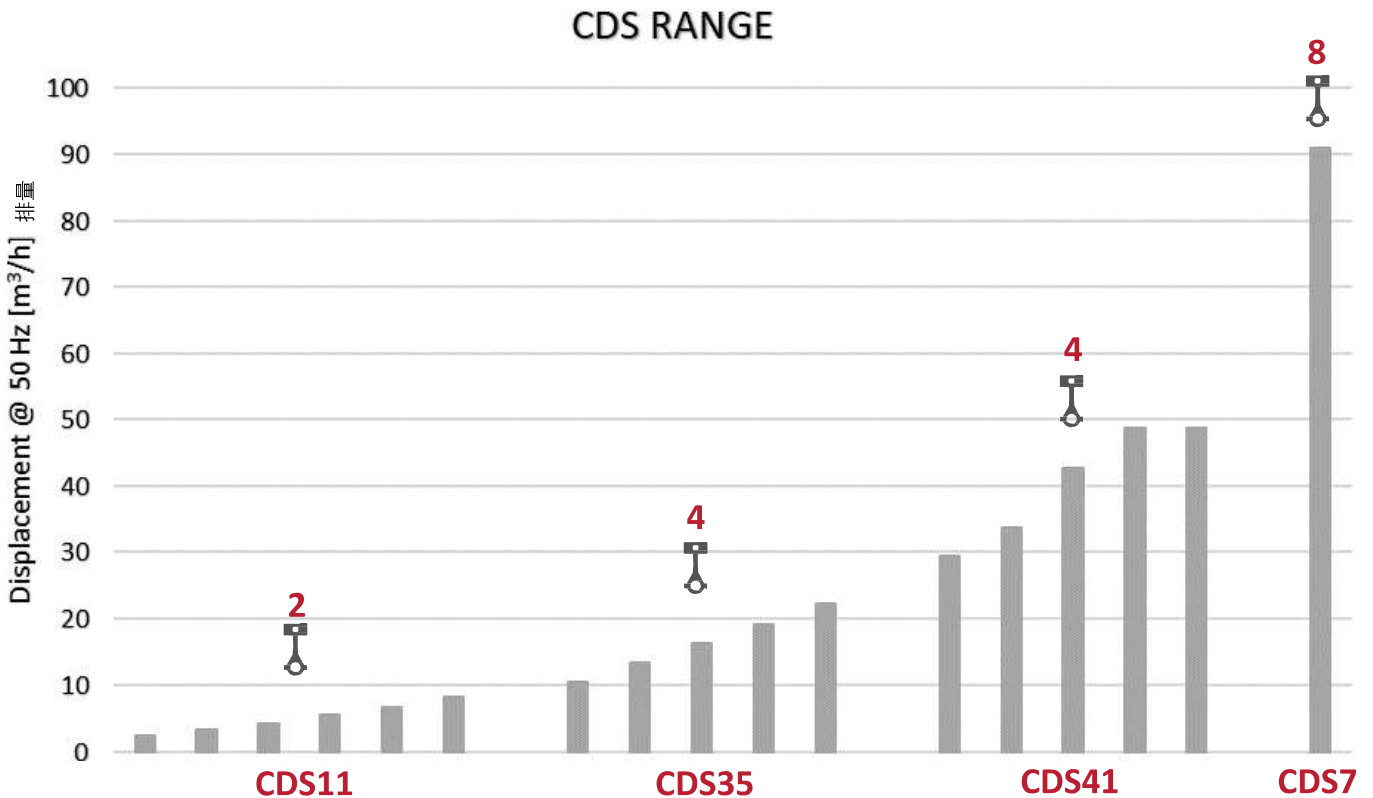
CDS系列技术特点

- 1** Extra reliability and efficiency of optimised valve plate design  
最优化的阀板设计保证了可靠性和效率
- 2** IP65 junction box  
防护等级IP65的电气接线盒
- 3** HP and LP safety relief valve  
高压低安全阀
- 4** Proven reliability of the electric motor thanks to the unique resistance to high temperatures  
由于独特的耐高温设计，电机的可靠性得到了保证



CDS SERIES – Displacement 50 Hz

CDS系列-排量50Hz



**THE WIDEST SUBCRITICAL CO<sub>2</sub> COMPRESSOR RANGE IN THE MARKET  
FROM 1,90 m<sup>3</sup>/h UP TO 91 m<sup>3</sup>/h @ 50 Hz**

市面上最广的亚临界CO<sub>2</sub>压缩机排量，从1.90m<sup>3</sup>/h-91m<sup>3</sup>/h@50Hz

## Model name

型号命名

CDS	101	B
SERIES 系列	HP (@ 50 Hz) * 100	B   LOW EVAPORATING TEMPERATURE 低蒸发温度

## Applications CDS SERIES

CDS系列的应用



**Industrial Refrigeration**  
工业制冷



**Commercial Refrigeration**  
商超制冷



**Logistic Warehouse**  
物流仓储

## Oil Charge / Service Valves / Net Weight / Displacement

油量/阀门/净重/排量

RANGE 系列	MODEL 型号	DISPLACEMENT 排量		CYLINDERS 缸数	OIL CHARGE 油量	SUCTION 吸气阀	DISCHARGE 排气阀	NET WEIGHT 净重
		50 Hz [m <sup>3</sup> /h]	60 Hz [m <sup>3</sup> /h]	[-]	[LITERS]	[mm]	[mm]	[kg]
<b>CDS11</b>	CDS101B	1,90	2,28	2	1,0	16s	14s	42
	CDS151B	2,53	3,04	2	1,0	16s	14s	43
	CDS181B	3,48	4,18	2	1,0	16s	14s	44
	CDS301B	4,34	5,21	2	1,0	16s	14s	46
	CDS351B	5,53	6,64	2	1,0	16s	14s	48
	CDS381B	6,75	8,10	2	1,0	16s	16s	49
	CDS401B	8,20	9,84	2	1,0	16s	16s	49
<b>CDS35</b>	CDS501B	10,61	12,73	4	2,0	22s	18s	99
	CDS701B	13,50	16,20	4	2,0	22s	18s	99
	CDS751B	16,19	19,43	4	2,0	22s	18s	99
	CDS901B	19,13	22,96	4	2,0	28s	22s	109
	CDS1201B	22,32	26,78	4	2,0	28s	22s	110
<b>CDS41</b>	CDS1501B	29,49	35,39	4	2,5	35s	28s	138
	CDS2001B	33,63	40,36	4	2,5	42s	28s	144
	CDS2401B	42,81	51,37	4	2,5	42s	28s	141
	CDS2501B	48,82	58,58	4	2,5	42s	28s	146
	CDS3001B	48,82	58,58	4	2,5	42s	28s	160
<b>CDS7</b>	CDS6001B	91,00	109,20	8	8,5	54s	42s	346

**Standard And Optional Accessories**  
**标配和选配件**

		MODEL 型号			
● STANDARD 标配   ○ OPTIONAL 选配		CDS11	CDS35	CDS41	CDS7
	<p><b>Motor Protection (MT)</b> <b>电机保护</b></p> <p>Compressors are equipped with a PTC probe installed on every motor winding, combined with electronic protection module (REL)                      压缩机的每个电机绕组都装有一个PTC探头，与电机保护模块合并。</p>	●	●	●	●
	<p><b>Electronic Protection Module (REL)</b> <b>电子保护模块</b></p> <p>Keeping under constant control winding temperature and discharge temperature) (BT007)                      确保电机绕组温度和压缩机排气温度在允许温度内。                      (参考技术手册BT007)</p>	●	●	●	●
	<p><b>Crankcase Heater (CH)</b> <b>曲轴箱加热器</b></p> <p>The heater is 100 W up to CDS41 included and 200 W for CDS7 series (BT001)                      CDS41及以下系列加热器的功率为100w，CDS7系列加热器的功率为200w。</p>	○	○	○	○
	<p><b>Self-regulating crankcase heater (TCH)</b> <b>自适应曲轴箱加热器</b></p> <p>Increasing the energy efficiency and reducing the warm-up time. The thermal regulated crankcase heater reduces the output power once the set temperature is reached. Depending on the working conditions there is up to 30% energy saving compared to the standard heater (BT001)                      与传统加热器相比，自适应曲轴箱加热器可提高能效并减少预热时间。一旦达到设定温度，自适应曲轴箱加热器会降低输出功率。节能情况视不同工况而变，与传统的曲轴箱加热器相比，最多可节省30%的耗能。(参见技术手册BT001)</p>	○	○	○	○
	<p><b>Maximum discharge temperature sensor (TMAX)</b> <b>(TMAX) 最大排气温度传感器</b></p> <p>A thermistor probe is monitoring the discharge temperature to be kept be- low 160°C (BT007)                      PTC探头监控压缩机排气温度，确保其保持在160℃以下                      (参考技术手册BT007)</p>	-	-	-	●

**Standard And Optional Accessories**  
**标配件和选配件**

		MODEL 型号			
		CDS11	CDS35	CDS41	CDS7
<p>● STANDARD 标配   ○ OPTIONAL 选配</p>					
	<p><b>Oil differential pressure switch (ODPS)</b>  <b>电子油压差开关 ( ODPS )</b></p> <p>Compressors with oil pump are equipped with an oil differential pressure switch set to 0,85 bar which must be connected in series with all other compressors protections (see BT007)</p> <p>带油泵的压缩机配备了一个油压差开关，设定在0.85bar的压差，油压差开关必须与所有其它保护装置串联连接 ( BT007 )</p>	-	-	-	●
	<p><b>Optical oil level sensor (ALL)</b>  <b>光学油位传感器</b></p> <p>Compressors with 4 cylinders and without oil pump can be equipped with an optical oil level sensor, which can be installed in a dedicated hole placed in correspondence to the internal oil pocket. The sensor is based on an infrared LED and a light receiver. Infrared reflection/refraction depends on the oil level in the pocket (BT007)</p> <p>4缸无油泵的压缩机机型可选配光学油位传感器，安装在与内部油槽相对应的专用孔中。该传感器基于红外LED和光接收器工作。红外反射/折射取决于油槽中的油位。(参见技术手册BT007)</p>	-	○	○	-
	<p><b>Oil charge</b>  <b>冷冻油充注</b></p> <p>All compressors are charged in the factory with POE or PAG oil before the mechanical and electrical running tests</p> <p>在进行机械和电气测试前，所有压缩机都已在工厂充注了POE或PAG油。</p>	●	●	●	●
	<p><b>LP and HP valve (LPSV-HPSV)</b>  <b>高压和低压安全阀</b></p>	●	●	●	●

**Electric Motor FLA (Full Load Ampere) and LRA (Locked Rotor Ampere)**

最大运行电流 (满载电流) 和锁定转子电流 (堵转电流)

RANGE 系列	MODEL 型号	MAX OPERATING CURRENT 最大工作电流							LOCKED ROTOR CURRENT 锁定转子电流							MAX ABSORBED POWER 最大输入功率	
		V / ph / Hz [A]							V / ph / Hz [A]							50 Hz [kW]	60 Hz [kW]
		220-240 / 3 / 50 265-290 / 3 / 60 D	380-420 / 3 / 50 440-480 / 3 / 60 Y	380-420 / 3 / 50 440-480 / 3 / 60 PWS	220-240 / 3 / 50 PWS	208-230 / 3 / 60 PWS	360-400 / 3 / 60 PWS	475-525 / 3 / 50 550-600 / 3 / 60	220-240 / 3 / 50 265-290 / 3 / 60 D	380-420 / 3 / 50 440-480 / 3 / 60 Y	380-420 / 3 / 50 440-480 / 3 / 60 PWS*	220-240 / 3 / 50 PWS*	208-230 / 3 / 60 PWS*	360-400 / 3 / 60 PWS*	475-525 / 3 / 50 550-600 / 3 / 60		
CDS11	CDS101B	5,0	2,9	-	-	-	-	2,3	24,0	13,8	-	-	-	-	11,0	1,6	1,9
	CDS151B	5,9	3,4	-	-	-	-	2,7	27,0	15,5	-	-	-	-	12,4	2,0	2,4
	CDS181B	7,6	4,4	-	-	-	-	3,5	35,0	20,0	-	-	-	-	16,0	2,6	3,2
	CDS301B	10,4	6,0	-	-	-	-	4,8	42,0	24,5	-	-	-	-	19,6	3,6	4,4
	CDS351B	12,6	7,3	-	-	-	-	5,8	55,0	32,0	-	-	-	-	25,5	4,2	5,1
	CDS381B	16,2	9,4	-	-	-	-	7,5	76,0	43,5	-	-	-	-	35,0	5,5	6,6
	CDS401B	16,2	9,4	-	-	-	-	7,5	76,0	43,5	-	-	-	-	35,0	5,5	6,6
CDS35	CDS501B	22,5	12,9	12,9	-	-	-	10,3	109,0	63,0	63,0	-	-	-	50,0	7,8	9,3
	CDS701B	29,0	16,7	16,7	-	-	-	13,4	149,0	86,0	86,0	-	-	-	69,0	10,0	12,0
	CDS751B	34,0	19,5	19,5	-	-	-	15,6	149,0	86,0	86,0	-	-	-	69,0	11,8	14,1
	CDS901B	40,0	23,0	23,0	-	-	-	18,4	159,0	92,0	92,0	-	-	-	74,0	13,8	16,6
	CDS1201B	41,5	24,0	24,0	-	-	-	19,2	188,0	109,0	109,0	-	-	-	87,0	14,4	17,3
CDS41	CDS1501B	59,0	34,0	34,0	59,0	71,0	41,0	27,0	295,0	171,0	171,0	295,0	354,0	205,0	136,0	19,5	23,4
	CDS2001B	66,0	38,0	38,0	66,0	79,0	45,5	30,5	306,0	177,0	177,0	306,0	367,0	212,0	142,0	22,7	27,2
	CDS2401B	78,0	45,0	45,0	78,0	93,0	54,0	36,0	351,0	203,0	203,0	351,0	421,0	244,0	162,0	26,6	31,9
	CDS2501B	78,0	45,0	45,0	78,0	93,0	54,0	36,0	351,0	203,0	203,0	351,0	421,0	244,0	162,0	26,6	31,9
	CDS3001B	97,0	56,0	56,0	97,0	116,4	67,2	44,8	424,0	245,0	245,0	424,4	509,0	294,0	196,0	35,9	43,1
CDS7	CDS6001B	182,0	105,0	105,0	182,0	218,0	126,0	84,0	788,0	455,0	455,0	788,0	946,0	546,0	364,0	62,0	74,4

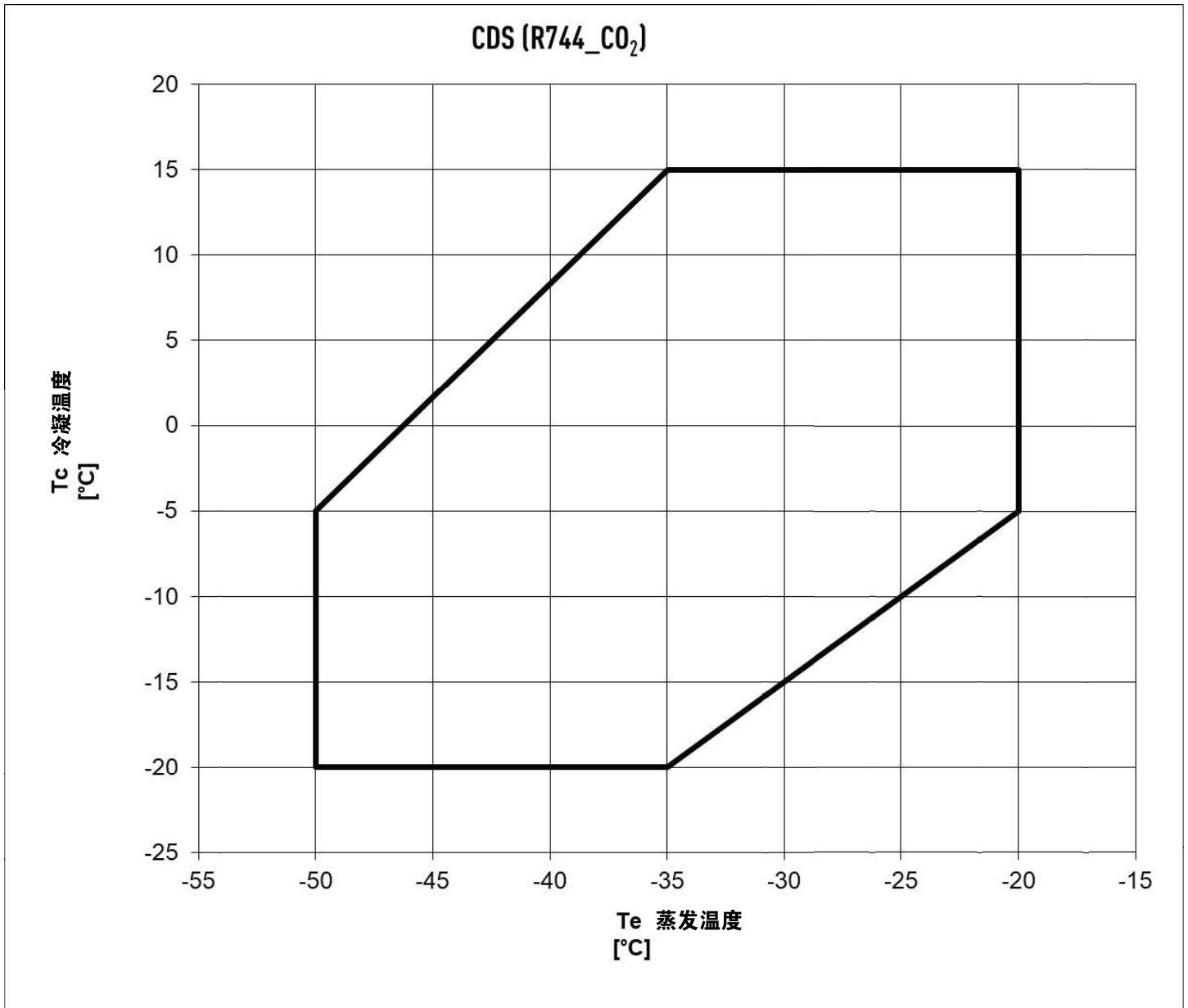
\* The current value refers to the direct connection.

带 \* 号为直接连接电流

Standard version of the motor / contact our technical service for operating conditions not present in the catalog  
 表上黄色为标准电机。

## Application Envelope

应用包络线



The application envelope changes with the compressor model and is available for every model in the DORIN web software

应用包络线随压缩机型号变化并且可以在都凌选型软件查到

Compressors application envelopes valid for superheat values lower than 10K

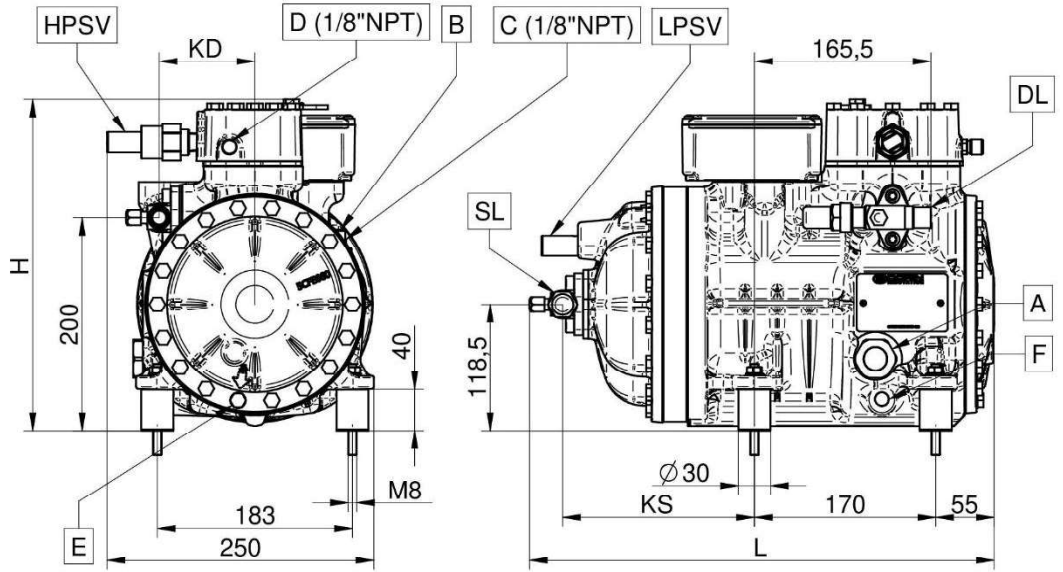
应用包络线内过热度低于10K

Technical Drawings

外形尺寸

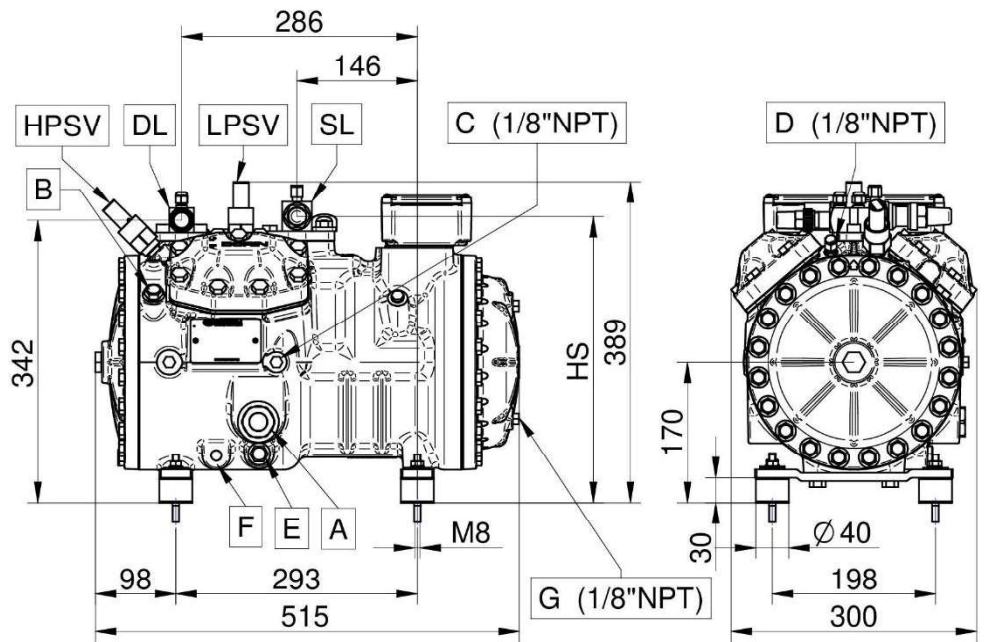
CDS11

MODEL 型号	L [mm]	H [mm]	KS [mm]	KD [mm]
CDS101B	412	305	156	87
CDS151B	412	305	156	87
CDS181B	412	305	156	87
CDS301B	412	308	156	87
CDS351B	412	308	156	87
CDS381B	436	311	180	90
CDS401B	436	311	180	90



CDS35

MODEL 型号	HS [mm]
CDS501B	343
CDS701B	343
CDS751B	343
CDS901B	347
CDS1201B	347



A-Oil sight - 油视镜

B-Oil charge plug - 注油塞

C-Low pressure tap - 低压旋塞

D-High pressure tap - 高压旋塞

E-Oil drain plug - 排油塞

F-Crankcase heater - 曲轴箱加热器

G-Oil return plug - 回油口

DL-Discharge service valve - 排气阀

SL-Suction service valve - 吸气阀

LPSV-Low pressure safety valve - 低压安全阀

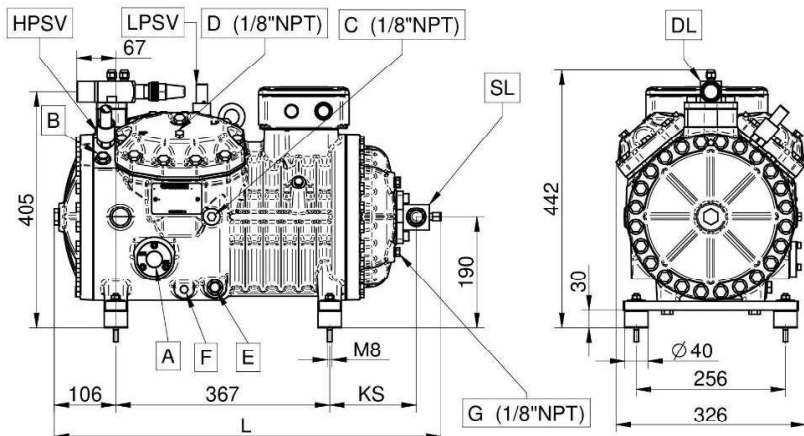
HPSV-High pressure safety valve - 高压安全阀

Technical Drawings

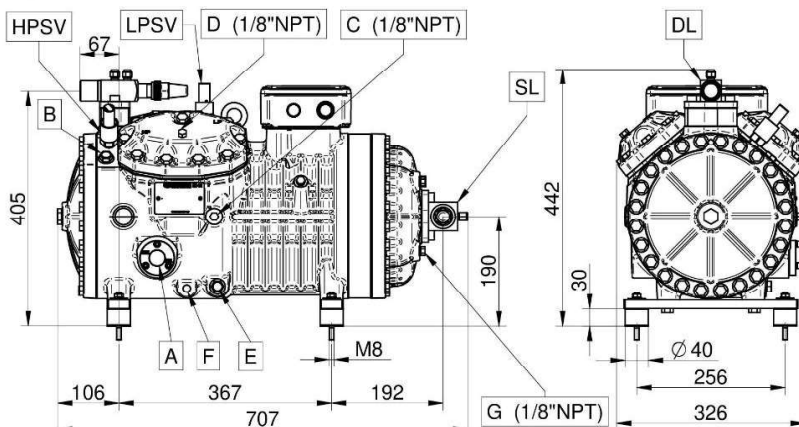
外形尺寸

CDS41

MODEL 型号	L [mm]	KS [mm]
CDS1501B	664	148
CDS2001B	667	151
CDS2401B	667	151
CDS2501B	667	151

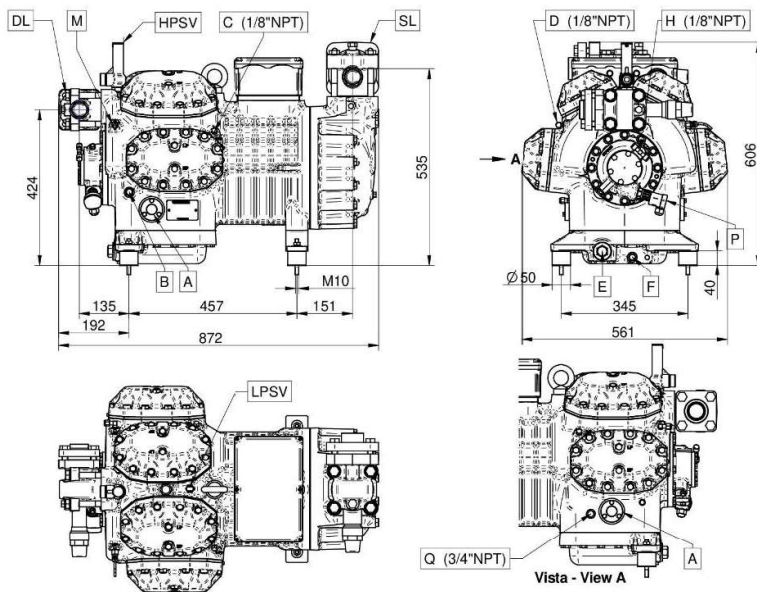


MODEL 型号
CDS3001B



CDS7

MODEL 型号
CDS6001B



A-Oil sight - 油视镜

B-Oil charge plug - 注油塞

C-Low pressure tap - 低压旋塞

D-High pressure tap - 高压旋塞

E-Oil drain plug - 排油塞

F-Crankcase heater - 曲轴箱加热器

G -Oil return plug - 回油口

H -High pressure tap oil pump - 高压旋塞油泵

M -Maximum discharge temperature sensor - 最大排气温度传感器

P-Oil differential pressure switch  
油压差开关

Q-Gas equalization - 气体平衡

DL-Discharge service valve - 排气阀

SL-Suction service valve - 吸气阀

LPSV -Low pressure safety valve - 低压安全阀

HPSV-High pressure safety valve - 高压安全阀



#### **DORIN WEB SOFTWARE**

Open the camera app on your device and point it at the QR code to scan it. Make sure that all the four corners of the QR code are in view. A pop-up notification will appear on your screen, tap the notifications to launch the code.

Dorin都凌在线选型软件  
扫描二维码，即可在线选型。



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