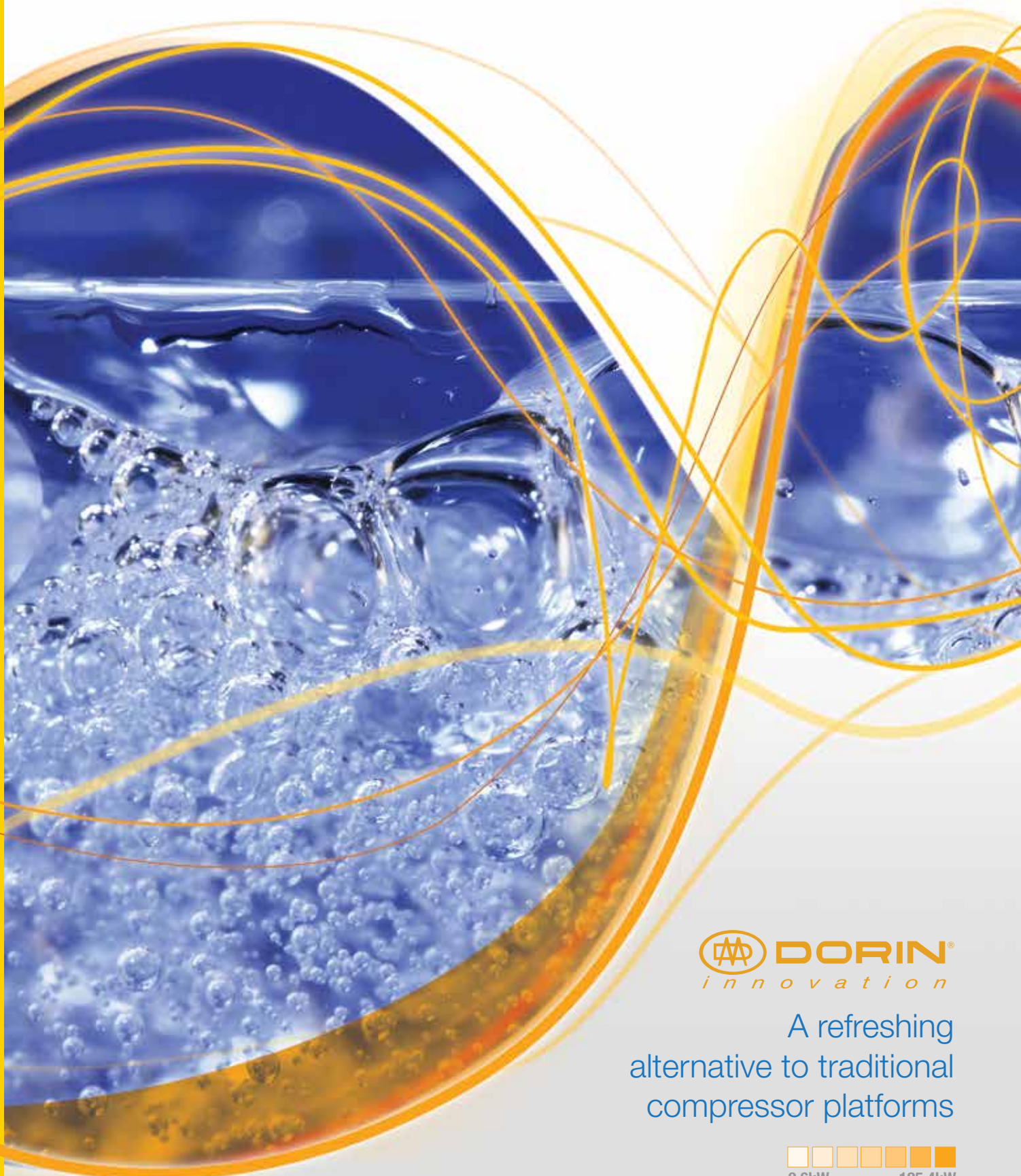


# Dorin CO<sub>2</sub> Compressor Range



 **DORIN**<sup>®</sup>  
*i n n o v a t i o n*

A refreshing  
alternative to traditional  
compressor platforms

  
9.6kW 125.4kW

# Dorin CO<sub>2</sub> Compressor Range

## SCC Range

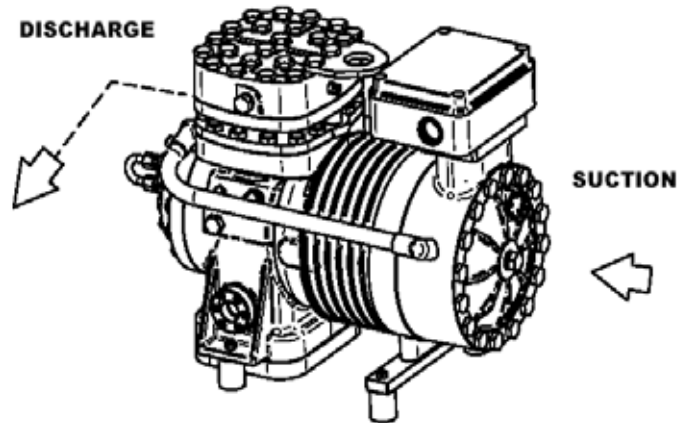
### Subcritical Single Stage Compressor



## Features

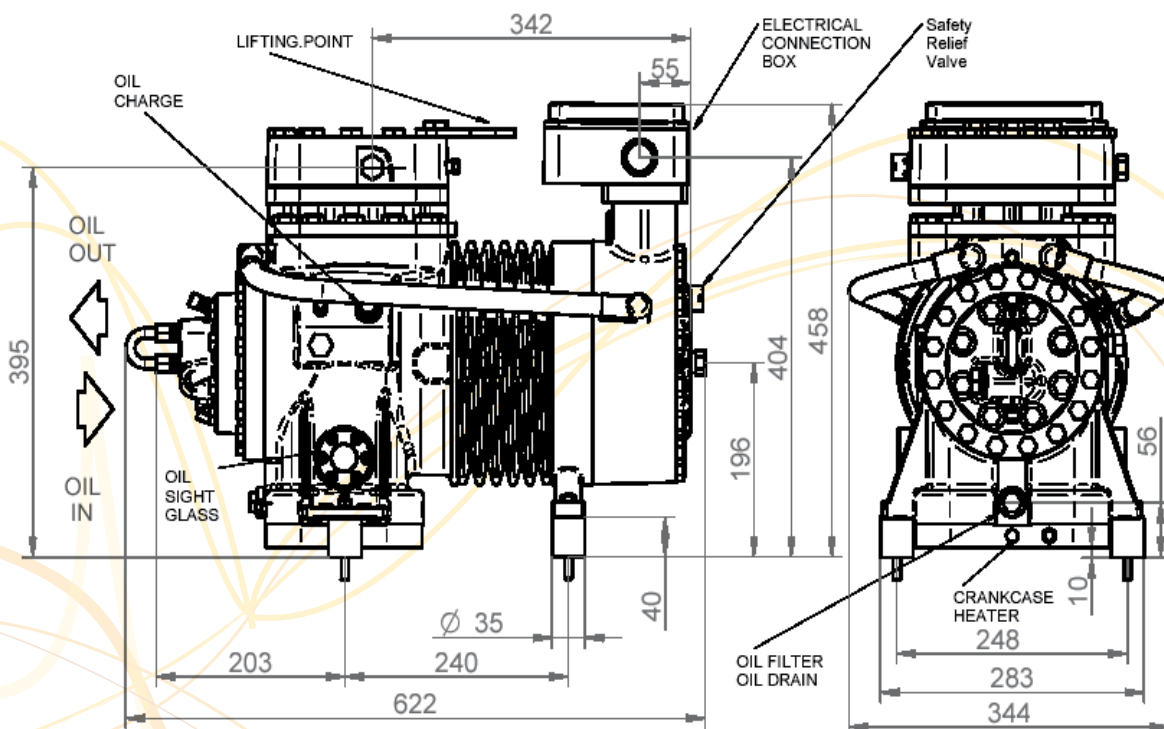
DORIN CO<sub>2</sub> compressors are equipped as standard with:

- electric motors with thermistor protection
- oil pump
- oil pump cover adjusted for oil cooler installation  
(The use of the oil cooler is strictly recommended. It will have to withdraw about 20% of the electric motor power absorption. Oil temperature shall not exceed 65°C. It's also important that oil temperature shall not decrease under 30°C as this is a symptom of liquid refrigerant inside the lubricant.)
- low and high pressure relief valves with relieving set point of respectively 100 bar (Pss) and 163 bar (PS)
- CPM3 protection module
- crankcase heater
- special lubricant for CO<sub>2</sub> transcritical application
- electric box with IP55 class of protection



We also highlight that DORIN CO<sub>2</sub> compressors are PED certified.

## Compressor Dimensions



# Dorin CO<sub>2</sub> Compressor Range

## SCS Range

### Subcritical Single Stage Compressor

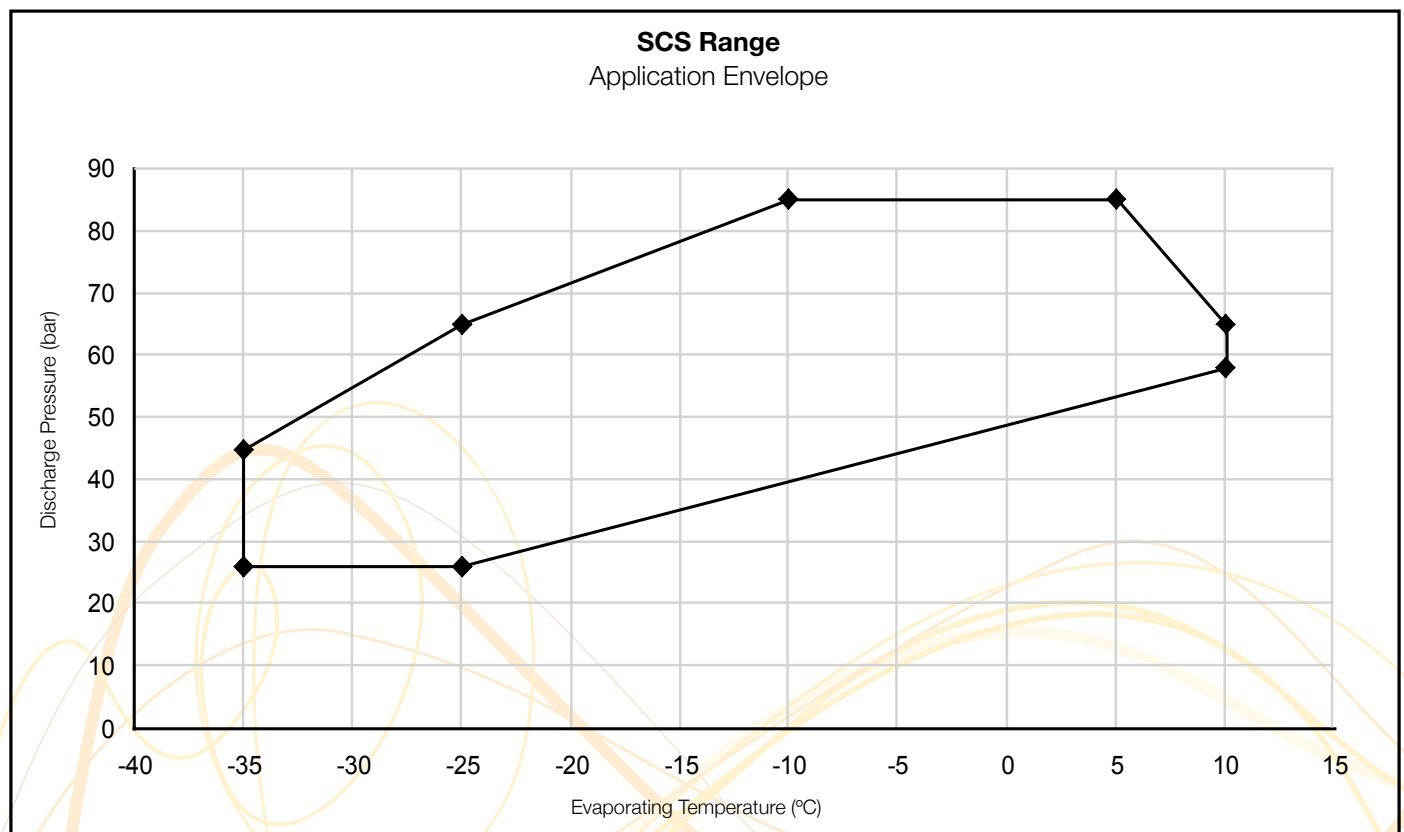


## Technical Data

Compressor range with their main features. For inverter application we strictly recommend to consult our technical department.

SCC RANGE SUBCRITICAL SINGLE STAGE									
Model	RPM	Swept Volume (m <sup>3</sup> /h)	Suction NPT	Discharge NPT	Weight (kg)	Oil Charge (kg)	FLA (A) 380V / 50hz	LRA (A) 380V / 50hz	Nominal Motor Power (kW)
SCS340-D	2900	7.0	3/4	1/2	131	1.8	20.3	149.1	10.0
SCS351-D	2900	8.8	3/4	1/2	133	1.8	20.3	149.1	10.0
SCS362-D	2900	10.7	3/4	1/2	140	1.8	24.0	172.6	12.0
SCS373-D	2900	12.7	3/4	1/2	143	1.8	33.0	215.1	15.0
SCS385-D	2900	14.9	1	3/4	146	1.8	38.0	255.3	18.0
SCS3K8-D	2900	18.8	1	3/4	150	1.8	38.0	255.3	18.0

Application envelopes of DORIN CO<sub>2</sub> compressors, valid for values lower than 10K for suction superheat.



# Dorin CO<sub>2</sub> Compressor Range

## SCS 340

### Subcritical Single Stage Compressor



## Technical Data

The SCS range is able to work in transcritical conditions as well, but in a smaller range than the TCS. Therefore the system won't have a condenser, but a gas cooler. This device will cool down the compressed CO<sub>2</sub>. Therefore the global efficiency of the system will strongly depend on how efficiently the heat exchange occurs inside the gas cooler. The lower the gas cooler outlet temperature, the higher the compressors cooling capacity.

Refer to tables and diagrams for compressor dimensions, technical data, application envelope and performance of these compressors (both are 20K suction superheating).

SCS 340 SUBCRITICAL SINGLE STAGE					
Evaporating Temp. (°C)	Condensing Temperature (°C)				
	-5	5	15	25	
<b>SCS 340 Operation in Subcritical Conditions</b>					
Cooling Capacity (kW)	-35	12.2	10.5	8.7	6.8
	-30	14.9	12.9	10.8	8.5
	-25	17.8	15.7	13.4	10.5
	-20		19.0	16.0	13.0
	-15		22.4	19.4	15.6
	-10		26.3	22.8	18.5
	-5			26.5	21.9
	0			30.9	25.1
	5				29.2
	10				33.7
Input Power (kW)	-35	4.3	4.9	5.6	6.1
	-30	4.4	5.0	5.9	6.4
	-25	4.3	5.1	6.1	6.7
	-20		5.0	6.1	7.0
	-15		4.7	5.9	7.1
	-10		4.1	5.6	7.0
	-5			5.1	6.8
	0			4.4	6.4
	5				5.7
	10				4.8
t_evap (°C)	p_suc (bar)	tgc_out (°C)	p_dis (bar)	Capacity (kW)	Input Power (kW)
<b>SCS 340 Operation in Transcritical Conditions</b>					
-15	22.88	15	75	18.3	7.6
		25	75	15.6	7.6
-10	26.45	15	75	22.1	7.8
		25	75	18.8	7.8
-5	30.42	15	75	26.2	7.8
		25	75	22.4	7.8
0	34.81	25	75	30.5	7.5
		35	75	25.9	7.5
5	39.65	15	75	35.4	7.1
		25	75	30.1	7.1

Preliminary data subject to variation without notice.  
 Data is valid with 10K of suction gas useful superheat  
**t\_ev** evaporating temperature (°C)  
**p\_suc** suction pressure (bar\_a)  
**tgc\_out** gas cooler outlet temperature (°C)  
**p\_dis** discharge pressure (bar\_a)  
**beta** pressure ratio  
**Q** refrigerating capacity (kW)