



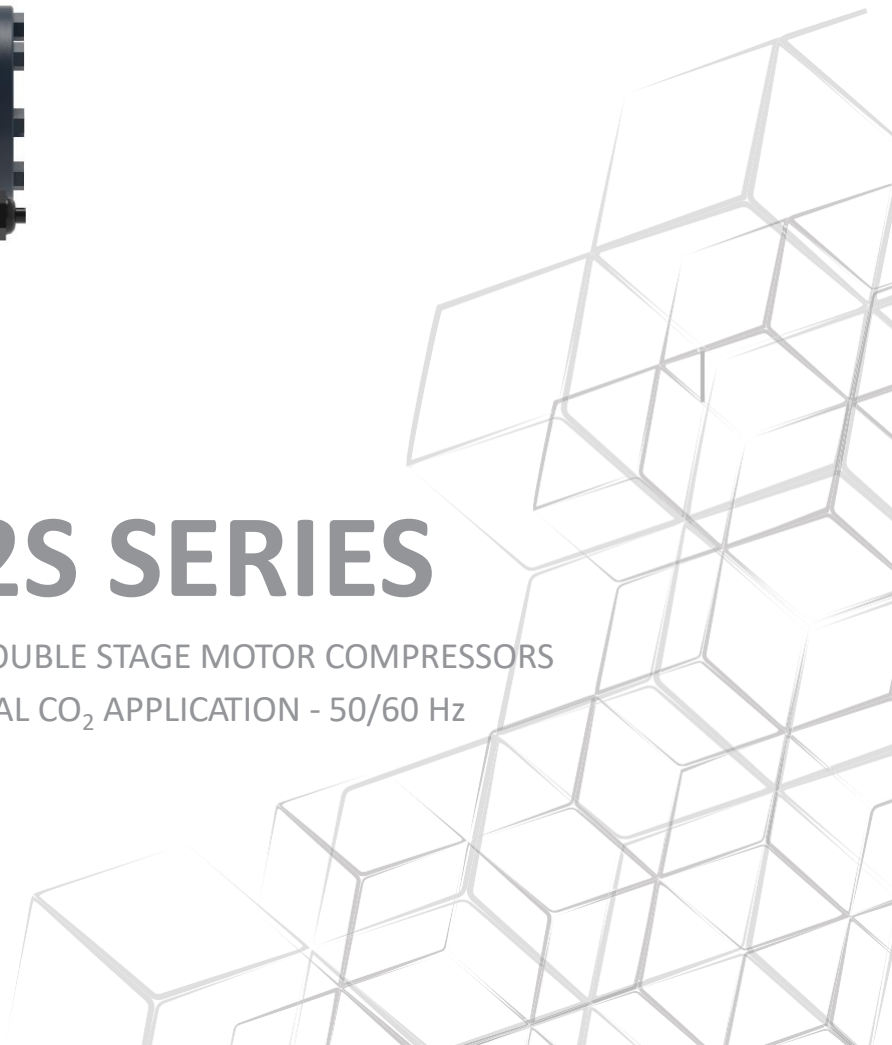
OFFICINE MARIO DORIN SINCE 1918

**DORIN**<sup>®</sup>  
INNOVATION



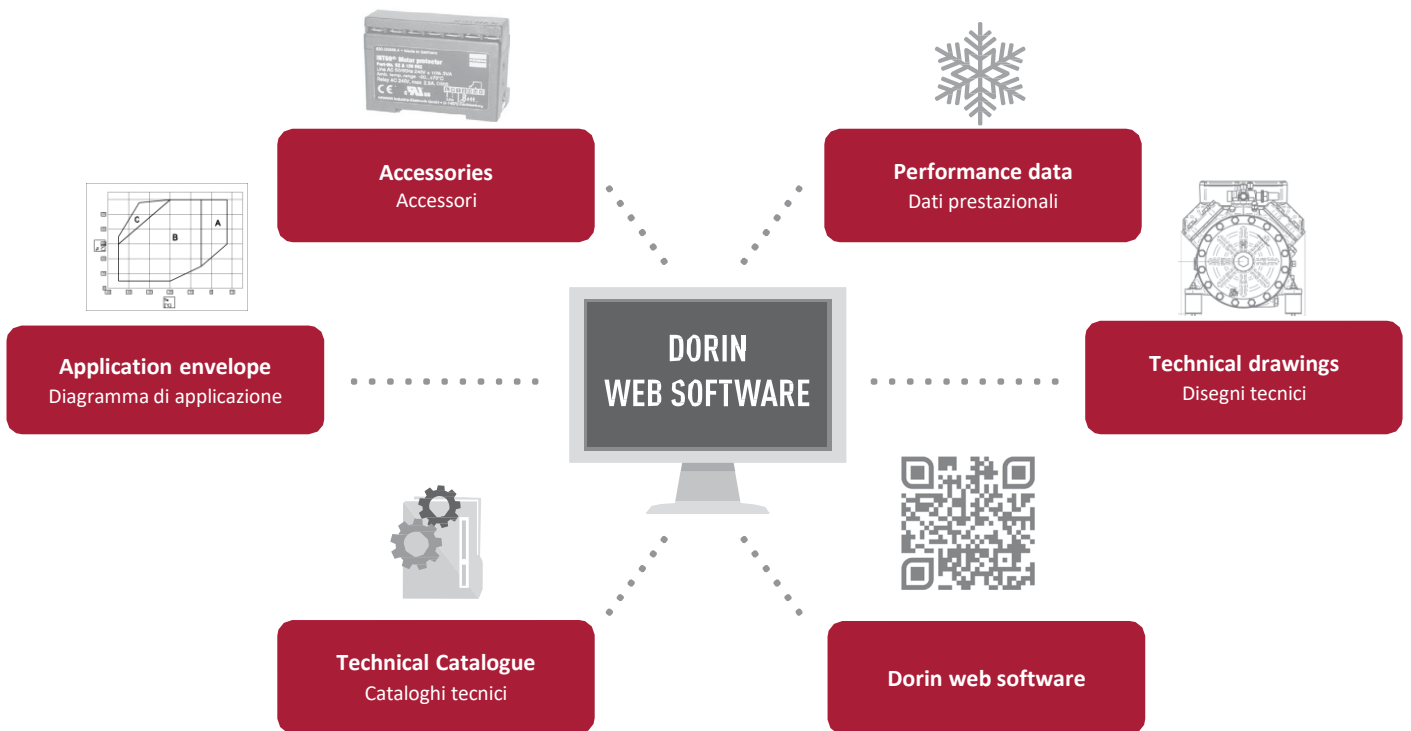
## CD2S SERIES

SEMI-HERMETIC DOUBLE STAGE MOTOR COMPRESSORS  
TRANSCRITICAL CO<sub>2</sub> APPLICATION - 50/60 Hz





**DORIN Web Software**



**Factory certifications**

Certificazioni aziendali

**ISO 4501:2018**  
**ISO 9001:2015**

**Compressor certifications**

Certificazioni di prodotto



**Compressor design pressure**

Pressioni di progetto del compressore

**100 bar**

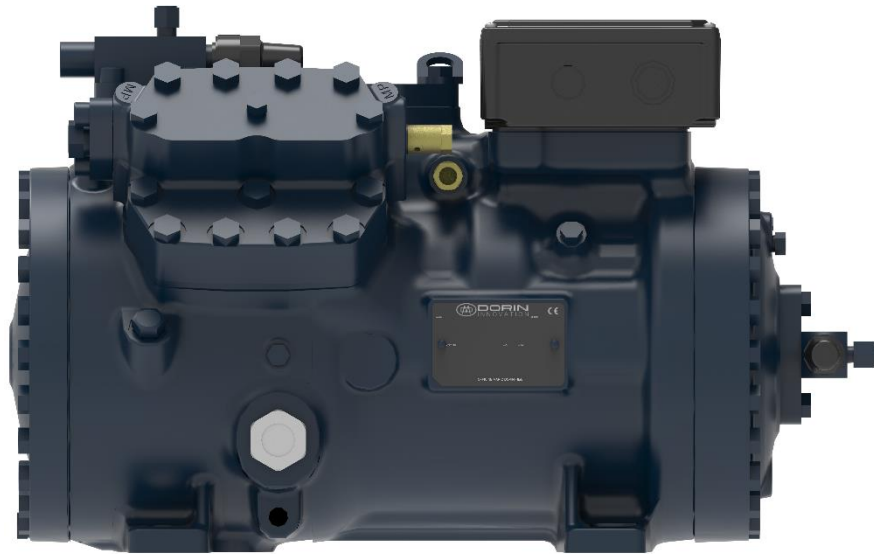
**Standstill pressure**  
Pressione di standstill

**150 bar**

**Max discharge pressure**  
Massima pressione di scarico

## CD2S Series Features

Caratteristiche della gamma CD2S



### Silent operations and low vibrations

Basse vibrazioni ed estrema silenziosità

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

Ogni albero è bilanciato individualmente e studi CFD per ottimizzano i flussi interni



### All models VFD compatible

Tutti i modelli possono essere utilizzati a frequenza variabile con inverter



### Highest levels of efficiency

Livelli di efficienza ai vertici per compressori semiermetici

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

Trattamenti superficiali sui componenti in movimento per ridurre l'attrito e migliorare la lubrificazione



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

Soluzione tecnica di contenimento dell'olio peculiare per ridotti trascinamenti dell'olio sui modelli con pompa

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

Maggiore efficienza del sistema, ridotte iniezioni di olio dal separatore olio per una viscosità più alta dell'olio nel compressore



### 2 years standard warranty

2 anni di garanzia standard



### All compressors suitable for CO<sub>2</sub>

Tutti i compressori possono lavorare con refrigerante CO<sub>2</sub>



### Unique CO<sub>2</sub> double stage compressor range

Range di compressori doppio stadio per CO<sub>2</sub> transcritica

**Electric motors from 1,5 to 35 HP, cooling capacity between 1,5 kW and 25 kW in LT conditions**

Motori elettrici da 1,5 a 35 HP, capacità frigorifere tra 1,5 e 25 kW in condizioni LT

## CD2S Series Technical Features

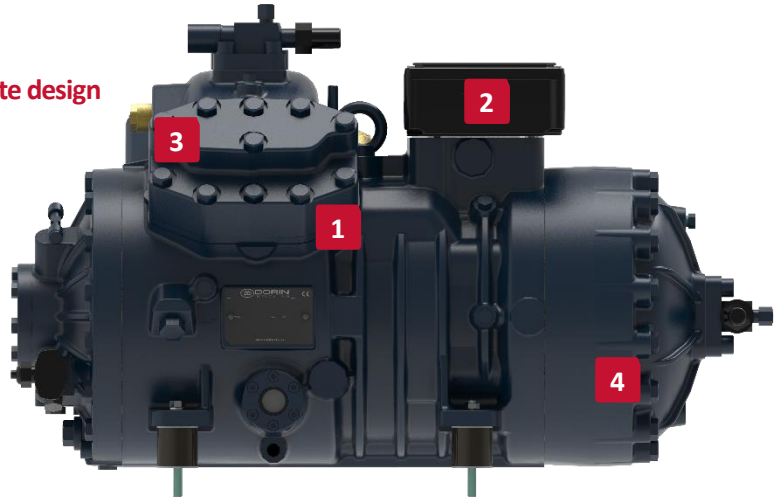
Caratteristiche tecniche della gamma CD2S

**1** Extra reliability and efficiency of optimized valve plate design  
Estrema affidabilità ed efficienza del disegno delle piastre valvole

**2** IP65 junction box  
Scatola attacchi elettrici con isolamento IP65

**3** Enhanced lubrication secured by automotive design  
Miglior lubrificazione, garantita dal design automotive

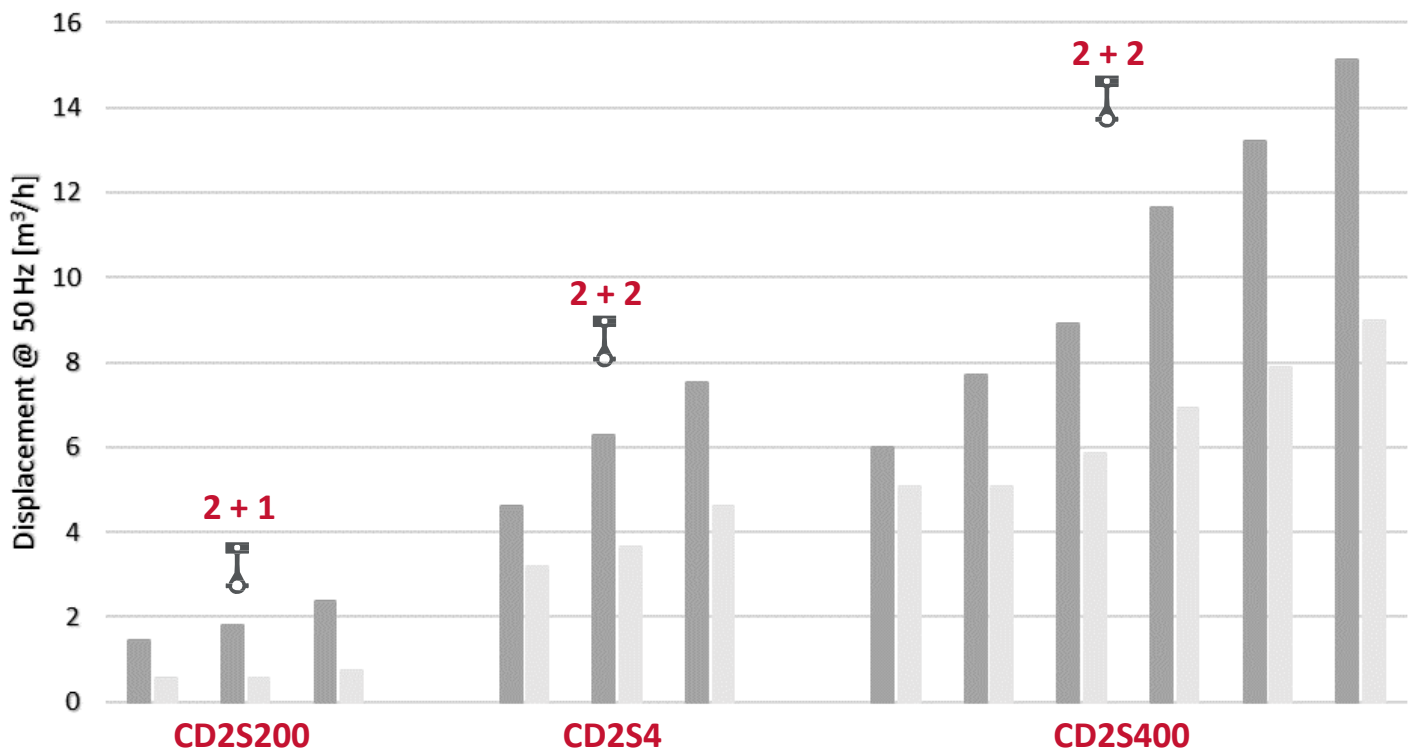
**4** Proven reliability of the electric motor thanks to the unique resistance to high temperatures  
Dimostrata affidabilità del motore elettrico grazie alla straordinaria resistenza alle alte temperature



## CD2S Series – Displacement 50 Hz

Serie CD2S – Spostamento volumetrico 50 Hz

### CD2S RANGE



**UNIQUE COMPRESSOR RANGE IN THE MARKET**  
**FROM 1,45 (LP) – 0,57 (HP) m<sup>3</sup>/h TO 15,11 (LP) – 8,98 (HP) m<sup>3</sup>/h @ 50 Hz**  
**FROM 3 TO 35 HORSE POWER**

## Applications CD2S SERIES

Applicazioni per la gamma CD2S



**Industrial Refrigeration**  
Refrigerazione Industriale



**Ice Cream Industry**  
Industria del Gelato



**Logistic Warehouse**  
Distribuzione



**Commercial Refrigeration**  
Refrigerazione Commerciale

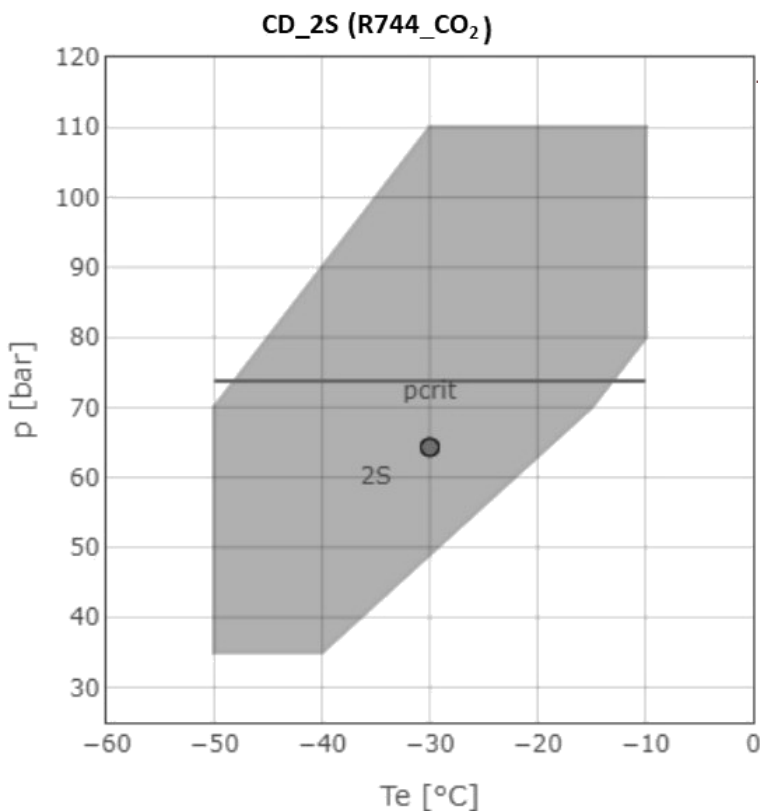
## Applications CD2S SERIES

Applicazioni per la gamma CD2S

<b>CD</b>	<b>2S</b>	<b>3500</b>
SERIES	2 STAGE	
SERIE	DOPPIO STADIO	HP * 100

## Application Envelope

Diagrammi di applicazione



## CD2S200-CD2S4-CD2S400

### Notes for CD2S model (two stage):

For performances of CD-2S models see Dorin selection software  
Necessary external intercooling between 1st stage discharge and 2nd stage suction

The size of the connections related to the intermediate pressure, are shown in the overall dimensions.

### Note per modelli CD2S (doppio stadio):

Per le prestazioni dei modelli CD-2S vedere software di selezione Dorin

Necessaria interrefrigerazione esterna fra mandata 1° stadio e aspirazione 2° stadio.

Le dimensioni delle connessioni relative alla pressione intermedia, sono riportate nelle dimensioni d'ingombro.

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

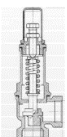
Il diagramma di applicazione cambia con il modello di compressore ed è disponibile per ogni modello e refrigerante nel web software di DORIN

Compressors application envelopes valid for superheat values lower than 10K

Diagramma di applicazione validi per surriscaldamenti in aspirazione non superiori a 10K

Standard And Optional Accessories

Accessori standard e opzionali



	MODEL		
	CD2S200	CD2S4	CD2S400
<p>● STANDARD   ○ OPTIONAL</p> <p><b>Motor Protection (MT)</b> Protezione motore (MT)</p> <p>CD2S200 range is equipped with the Thermik protection: a normally closed contact that trips in case the motor winding temperature is 140±5°C. CD2S4 and CD2S400 are equipped with a PTC probe on every motor winding set at 120°C. The sensor requires an external protection module to read the signal from the probe (BT008)</p> <p>La gamma CD2S200 ha la protezione Thermik: un contatto normalmente chiuso che interrompe l'alimentazione al compressore se la temperatura degli avvolgimenti è 140±5°C. La gamma CD2S4 e CD2S400 è equipaggiata con un sensore PTC su ogni avvolgimento del motore impostato a 120 °C. Il sensore richiede un modulo di protezione esterno per leggere il segnale in uscita dalla PTC (BT008)</p>	●	●	●
<p><b>Electronic Protection Module (REL)</b> Modulo elettronico protezione motore</p> <p>Keeping under constant control winding temperature and discharge temperature) (BT007)</p> <p>Modulo per controllare la temperatura degli avvolgimenti e quella di scarico (BT007)</p>	○	●	●
<p><b>Crankcase Heater (CH)</b> Resistenza Carter (CH)</p> <p>The heater is 100 W for CD2S200 and CD2S4 included and 200 W for CD2S400 series (BT001)</p> <p>Il riscaldatore ha una potenza di 100 W per la gamma CD200 e CD2S4 e 200 W per la gamma CD2S400 (BT001)</p>	○	○	○
<p><b>Self-regulating crankcase heater (TCH)</b> Resistenza autoregolante (TCH)</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)</p> <p>Rispetto alla resistenza standard CH riduce il tempo di riscaldamento e incrementa l'efficienza. La resistenza autoregolante aiuta a ridurre il consumo in potenza una volta che la temperatura di set è raggiunta. A seconda delle condizioni di funzionamento può garantire fino al 30 % di risparmio energetico rispetto alla resistenza standard (BT001)</p>	○	○	○
<p><b>Oil differential pressure switch (ODPS)</b> Sensore differenziale di pressione olio (ODPS)</p> <p>Compressors with oil pump are equipped with an oil differential pressure switch set at 0,95 bar differential. The oil pressure switch must be connected in series to both thermistors module and all other protections foreseen in the system chain alarm (BT007)</p> <p>I compressori equipaggiati con pompa olio utilizzano hanno un differenziale di pressione settato a 0,95 bar. La protezione per la pressione dell'olio deve essere connessa in serie a tutte le altre protezioni del compressore, come i termistori (BT007)</p>	-	-	●
<p><b>Oil charge</b> Carica olio</p> <p>All compressors are charged in the factory with POE or PAG oil before the mechanical and electrical running tests</p> <p>Tutti i compressori sono caricati con olio POE o PAG prima dei test meccanici ed elettrici a fine linea di assemblaggio</p>	●	●	●
<p><b>Oil pump forced lubrication (FL)</b> Lubrificazione mediante pompa olio (FL)</p>	-	-	●
<p><b>LP and HP valve (LPSV-HPSV)</b> Valvola di sicurezza LP e HP</p>	●	●	●

# CD2S SERIES

## Oil Charge / Service Valves / Net Weight

Carica olio/ Rubinetti/ Peso netto

RANGE SERIE	MODEL MODELLO	DISPLACEMENT SPOSTAMENTO VOLUMETRICO		CYLINDERS CILINDRI	OIL CHARGE CARICA OLIO	SUCTION ASPIRAZIONE		DISCHARGE SCARICO		NET WEIGHT PESO NETTO
		50 Hz [m³/h]	60 Hz [m³/h]			Socket welding [mm]	Butt welding [mm]	Socket welding [mm]	Butt welding [mm]	
		LP+HP	LP+HP	LP+HP	[LITERS]					
CD2S200	CD2S300	1,45 + 0,57	1,74 + 0,68	2 + 1	1,3	10	14	10	14	75
	CD2S350	1,82 + 0,57	2,18 + 0,68	2 + 1	1,3	10	14	10	14	78
	CD2S360	2,36 + 0,73	2,83 + 0,88	2 + 1	1,3	10	14	10	14	80
CD2S4	CD2S550	4,60 + 3,20	5,53 + 3,84	2 + 2	1,7	22	28	18	24	112
	CD2S750	6,27 + 3,64	7,52 + 4,37	2 + 2	1,7	22	28	18	24	114
	CD2S900	7,52 + 4,60	9,02 + 5,53	2 + 2	1,7	22	28	18	24	116
CD2S400	CD2S1200	5,99 + 5,06	7,19 + 6,07	2 + 2	2,5	22	28	22	28	164
	CD2S1500	7,71 + 5,06	9,25 + 6,07	2 + 2	2,5	22	28	22	28	167
	CD2S2000	8,92 + 5,85	10,70 + 7,02	2 + 2	2,5	22	28	22	28	171
	CD2S2500	11,65 + 6,92	13,98 + 8,30	2 + 2	2,5	22	28	22	28	175
	CD2S3000	13,22 + 7,86	15,86 + 9,43	2 + 2	2,5	22	28	22	28	182
	CD2S3500	15,11 + 8,98	18,13 + 10,78	2 + 2	2,5	22	28	22	28	191

## Electric Motor Data

Dati motore elettrico

RANGE SERIE	MODEL MODELLO	MAX OPERATING CURRENT MAX CORRENTE DI FUNZIONAMENTO V / ph / Hz [A]										LOCKED ROTOR CURRENT CORRENTE A ROTORE BLOCCATO V / ph / Hz [A]								MAX ABSORBED POWER	
		220-240/3/50 265-290/3/60 D		380-420/3/50 440-480/3/60 Y		208-230/3/60 D		360-400/3/60 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		475-525/3/50 570-630/3/60		50 Hz [kW]	60 Hz [kW]
		220-240/3/50	265-290/3/60	380-420/3/50	440-480/3/60	208-230/3/60	360-400/3/60	380-420/3/50	440-480/3/60	220-240/3/50	208-230/3/60	360-400/3/60	475-525/3/50	570-630/3/60							
CD2S200	CD2S300	10,4	6,0	12,5	7,2	-	-	-	-	4,8	42,0	24,5	51	29,5	-	-	-	-	19,6	3,6	4,4
	CD2S350	12,6	7,3	15,1	8,7	-	-	-	-	5,8	55,0	32,0	66,0	38,5	-	-	-	-	25,5	4,2	5,1
	CD2S360	12,9	7,5	15,5	8,9	-	-	-	-	6,0	59,0	34,0	71,0	41,0	-	-	-	-	27,0	4,4	5,3
CD2S4	CD2S550	25,0	14,5	30,0	17,4	14,5	-	-	-	11,6	109,0	63,0	131,0	76,0	63,0	-	-	-	50,4	8,7	10,5
	CD2S750	34,0	19,5	41,0	23,5	19,5	-	-	-	15,6	149,0	86,0	179,0	103,0	86,0	-	-	-	68,8	11,4	13,7
	CD2S900	40,0	23,0	48,0	27,5	23,0	-	-	-	18,4	159,0	92,0	191,0	110,0	92,0	-	-	-	73,6	13,8	16,6
CD2S400	CD2S1200	48,0	28,0	58,0	33,5	28,0	48,0	58,0	33,5	22,5	233,0	135,0	280,0	162,0	135,0	233,0	280,0	162,0	108,0	16,8	20,2
	CD2S1500	59,0	34,0	71,0	41,0	34,0	59,0	71,0	41,0	27,0	295,0	171,0	354,0	205,0	171,0	295,0	354,0	205,0	136,0	19,5	23,4
	CD2S2000	66,0	38,0	79,0	45,5	38,0	66,0	79,0	45,5	30,5	306,0	177,0	367,0	212,0	177,0	306,0	367,0	212,0	142,0	22,7	27,2
	CD2S2500	78,0	45,0	93,0	54,0	45,0	78,0	93,0	54,0	36,0	351,0	203,0	421,0	244,0	203,0	351,0	421,0	244,0	162,0	26,6	31,9
	CD2S3000	97,0	56,0	116,0	67,0	56,0	97,0	116,0	67,0	45,0	424,0	245,0	509,0	294,0	245,0	424,0	509,0	294,0	196,0	33,4	40,1
	CD2S3500	130,0	75,0	156,0	90,0	75,0	130,0	156,0	90,0	60,0	450,0	260,0	540,0	312,0	260,0	450,0	540,0	312,0	208,0	44,9	53,9

Standard version of the motor / contact our technical service for operating conditions not present in the catalog

Versione standard del motore/contattare il nostro ufficio tecnico commerciale per le condizioni non presenti sul catalogo

\* The current value refers to the direct connection.

\*Valore per collegamento diretto

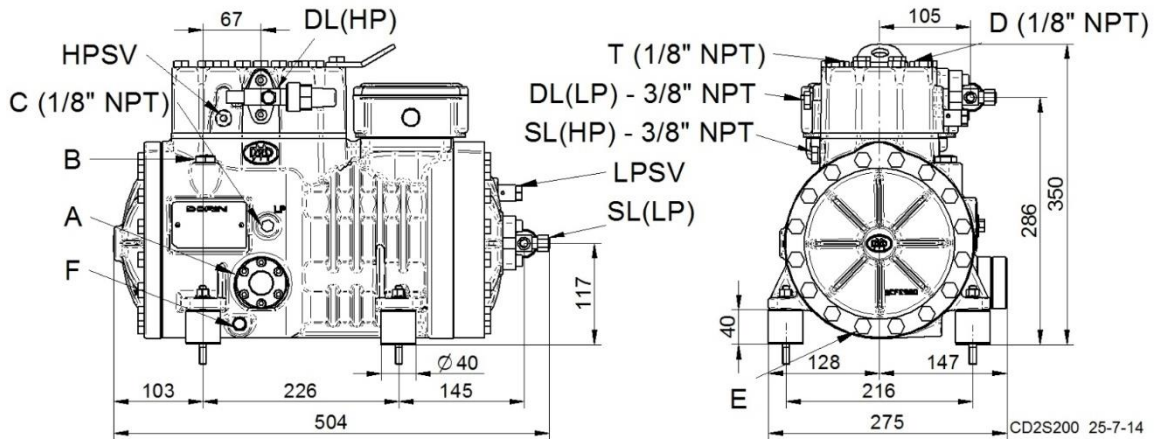


Technical Drawings

Disegno tecnico

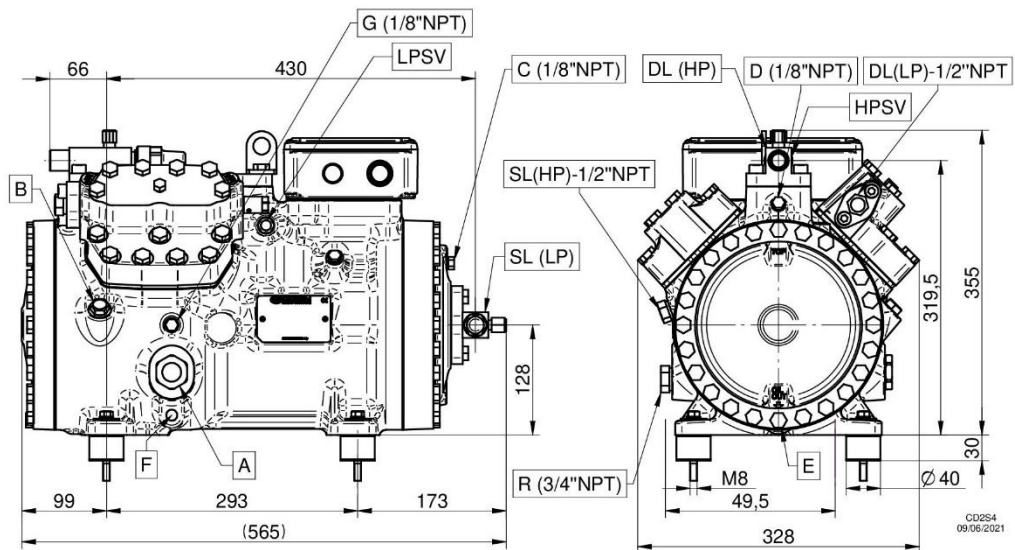
CD2S200

MODEL MODELLO
CD2S300
CD2S350
CD2S360



CD2S4

MODEL MODELLO
CD2S550
CD2S750
CD2S900



- A** - Oil sight glass - Spia Olio
- B** - Oil charge plug - Tappo carica Olio (M12)
- C** - Low pressure connection - Presa Bassa Pres. (1/8" NPT)
- D** - High pressure connection - Presa Alta Pres. (1/8" NPT)
- E** - Oil drain plug - Tappo scarica olio
- F** - Crankcase heater - Resistenza carter
- G** - Oil return plug - Tappo ritorno olio
- P** - Oil diff. press. Switch - Press. diff. olio elettr.

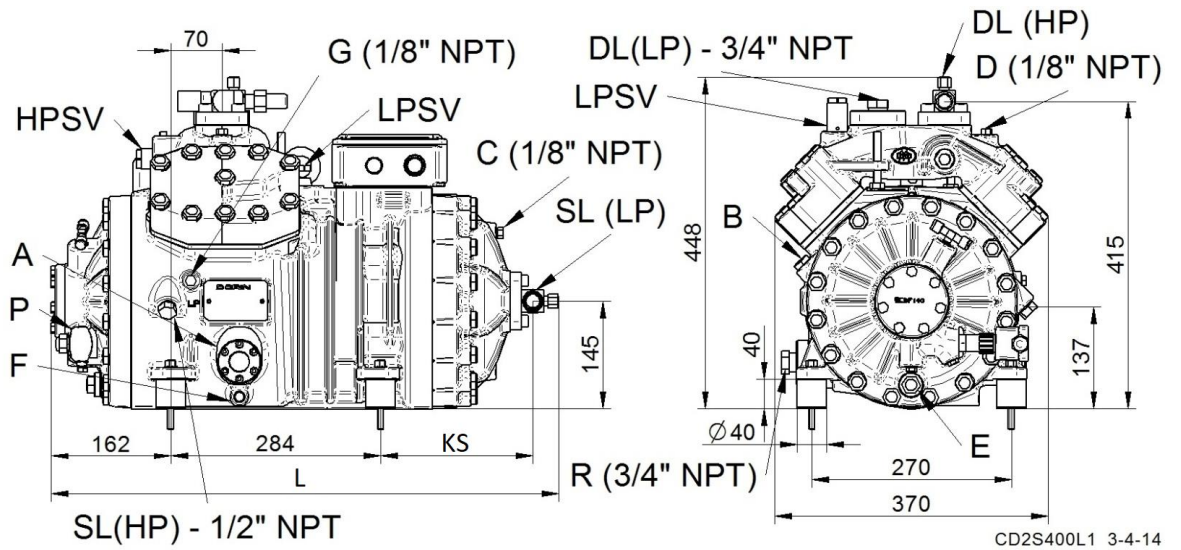
- R** - Oil level connection - Connessione livello olio
- T** - Intermediate pressure connection - Presa press. interm. (1/8" NPT)
- DL(LP)** - 1° stage discharge connection - Connessione compr. 1° stadio
- SL(LP)** - 1° stage suction service valve - Rubinetto aspir. 1° stadio
- DL(HP)** - 2° stage discharge service valve - Rubinetto compr. 2° stadio
- SL(HP)** - 2° stage suction connection - Connessione aspir. 2° stadio
- LPSV** - LP safety valve - Valvola sic. LP
- HPSV** - HP safety valve - Valvola sic. HP

Technical Drawings

Disegno tecnico

CD2S400

MODEL MODELLO	L [mm]	KS [mm]
CD2S1200	690	208
CD2S1500	690	208
CD2S2000	690	208
CD2S2500	690	208
CD2S3000	740	259
CD2S3500	740	259



- A** - Oil sight glass - Spia Olio
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- R** - Oil level connection - Connessione livello olio
- T** - Intermediate pressure connection - Presa press. interm. (1/8" NPT)
- DL(LP)** - 1° stage discharge connection - Connessione compr. 1° stadio
- SL(LP)** - 1° stage suction service valve - Rubinetto aspir. 1° stadio
- DL(HP)** - 2° stage discharge service valve - Rubinetto compr. 2° stadio
- SL(HP)** - 2° stage suction connection - Connessione aspir. 2° stadio
- LPSV** - LP safety valve - Valvola sic. LP
- HPSV** - HP safety valve - Valvola sic. HP





### **DORIN WEB SOFTWARE**

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/ 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. / 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.



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