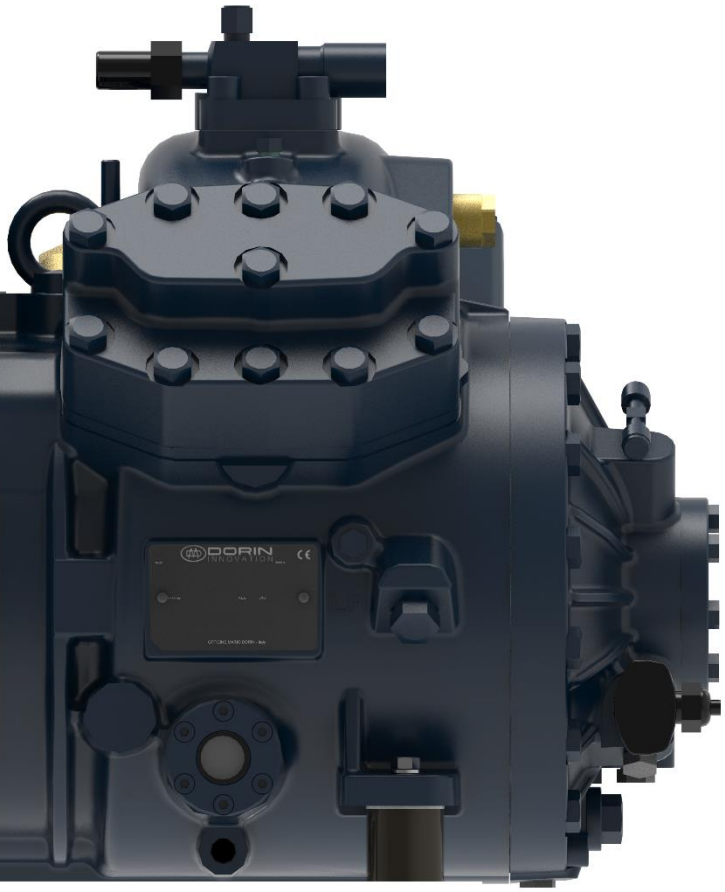
OFFICINE MARIO DORIN SINCE 1918

DORIN®

INNOVATION

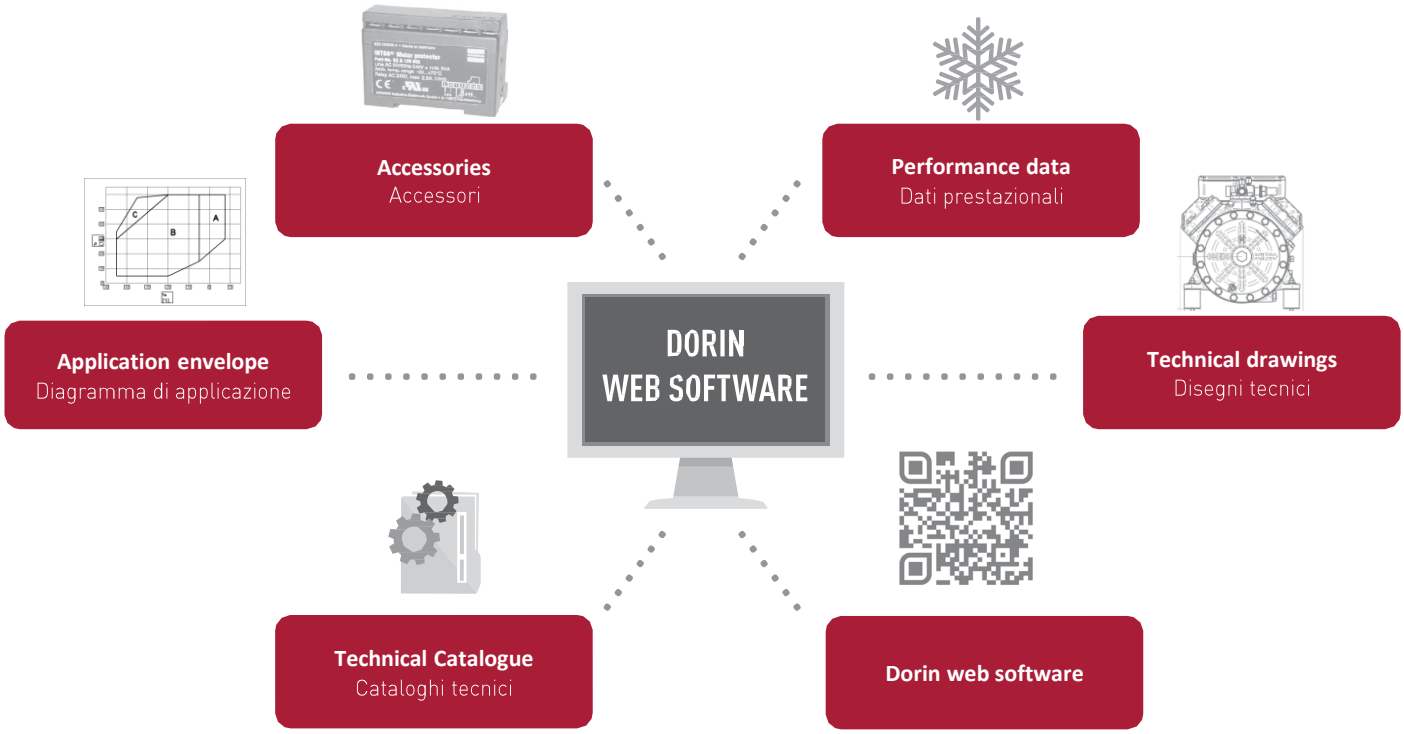


CD2S SERIES

SEMI-HERMETIC DOUBLE STAGE MOTOR COMPRESSORS

TRANSRITICAL CO_2 APPLICATION - 50/60 Hz

DORIN Web Software



Factory certifications

Certificazioni aziendali

ISO 45001:2018
ISO 9001:2015

Compressor certifications

Certificazioni di prodotto

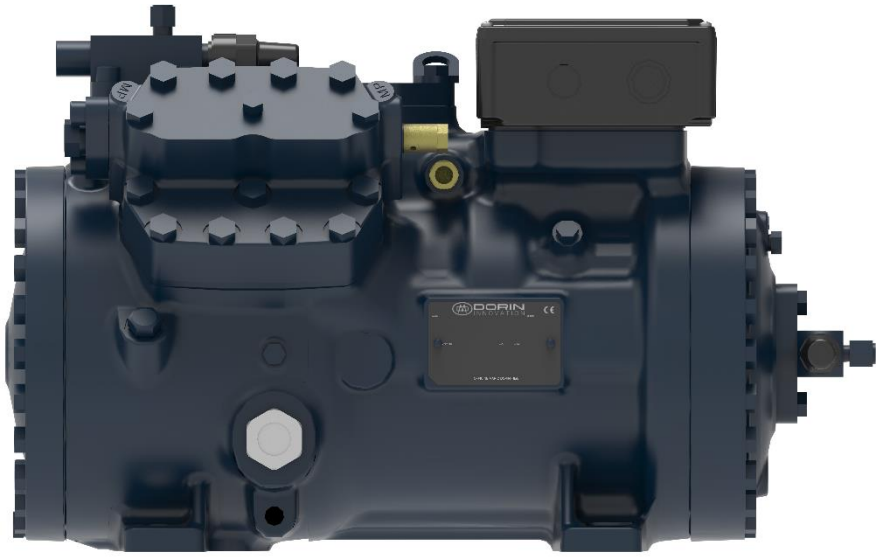
Compressor design pressure

Pressioni di progetto del compressore

100 bar	150 bar
Standstill pressure Pressione di standstill	**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

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

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

Prova di resistenza nebbia salina, certificata per 1000 ore (NSS test in accordo alla norma UNI EN ISO 4628, parti 2,3,8- Metodo di valutazione : UNI EN ISO 9227

All compressors suitable for CO_2

Tutti i compressori possono lavorare con refrigerante CO_2

Unique CO_2 double stage compressor range

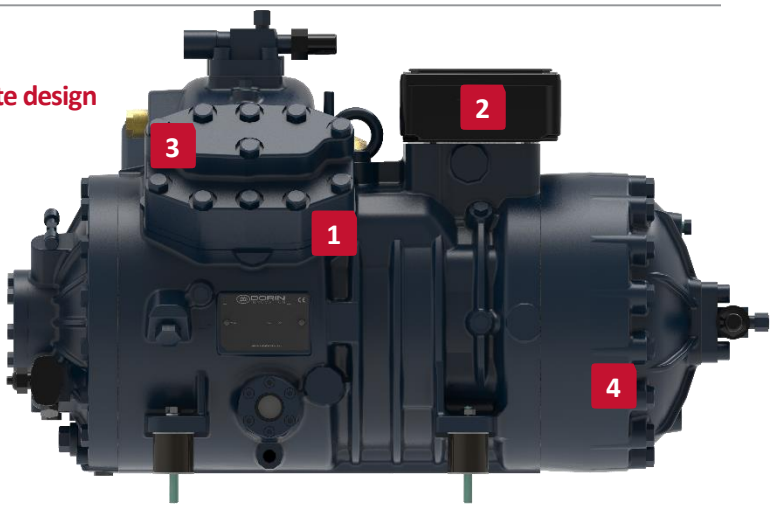
Range di compressori doppio stadio per CO_2 transcritica

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**

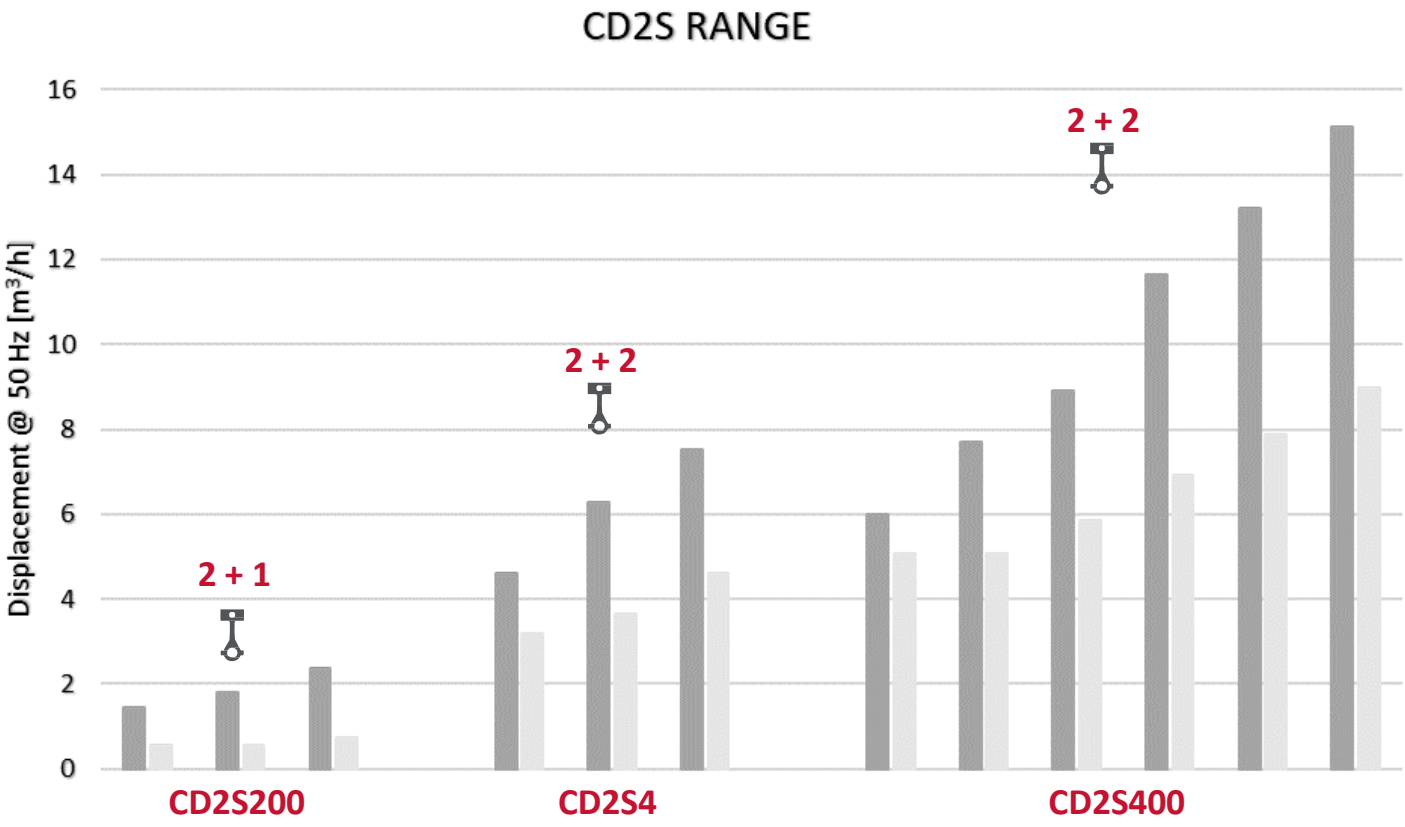
Miglior lubrificazione, garantita dal design automotive

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



UNIQUE COMPRESSOR RANGE IN THE MARKET
FROM 1,45 (LP) – 0,57 (HP) m³/h TO 15,11 (LP) – 8,98 (HP) m³/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

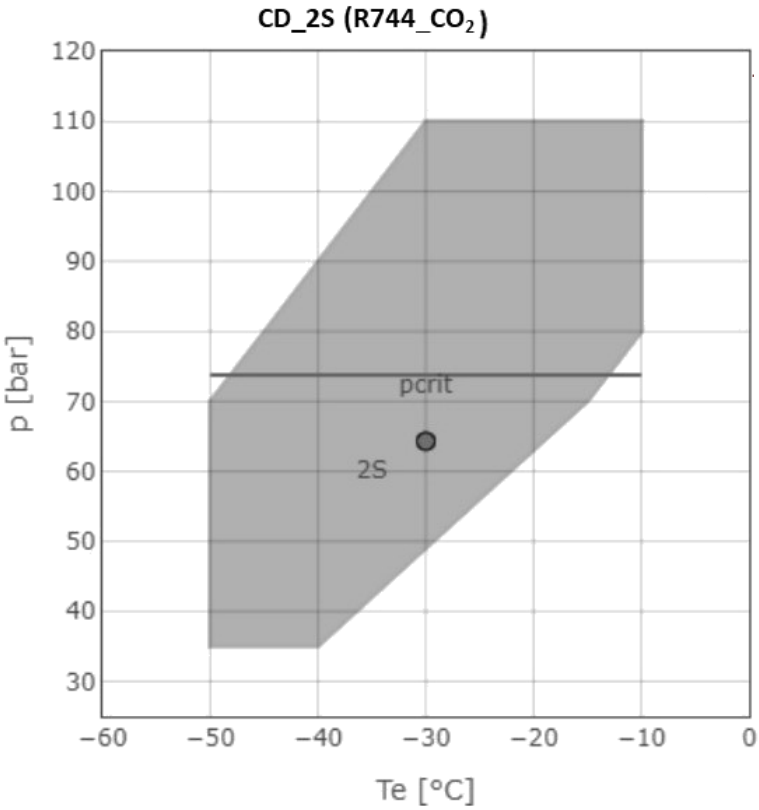
Applications CD2S SERIES

Applicazioni per la gamma CD2S

CD	2S	3500
SERIES SERIE	2 STAGE DOPPIO STADIO	HP (@ 50 Hz) * 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.

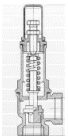
Le dimensioni delle connessioni relative alla pressione intermedia, sono riportate nelle dimensioni d'ingombro.

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

	● STANDARD | ○ OPTIONAL	MODEL		
		CD2S200	CD2S4	CD2S400
	**Motor Protection (MT)** Protezione motore (MT) Compressors are equipped with a PTC probe installed on every motor winding set at 120°C, combined with electronic protection module (REL) I compressori sono equipaggiati con un sensore PTC montato su ogni avvolgimento del motore impostato a 120 °C, combinato con il modulo di protezione elettronico (REL)	●	●	●
	**Electronic Protection Module (REL)** Modulo elettronico protezione motore Keeping under constant control winding temperature and discharge temperature) (BT007) Modulo per controllare la temperatura degli avvolgimenti e quella di scarico (BT007)	●	●	●
	**Crankcase Heater (CH)** Resistenza Carter (CH) The heater is 100 W for CD2S200 and CD2S4 included and 200 W for CD2S400 series (BT001) Il riscaldatore ha una potenza di 100 W per la gamma CD200 e CD2S4 e 200 W per la gamma CD2S400 (BT001)	○	○	○
	**Self-regulating crankcase heater (TCH)** Resistenza autoregolante (TCH) 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) 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)	○	○	○
	**Oil differential pressure switch (ODPS)** Sensore differenziale di pressione olio (ODPS) 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) I compressori equipaggiati con pompa olio utilizzano un pressostato olio differenziale settato a 0,85 bar che deve essere connesso in serie a tutte le altre protezioni del compressore (vedi BT007)	-	-	●
	**Oil charge** Carica olio All compressors are charged in the factory with POE or PAG oil before the mechanical and electrical running tests Tutti i compressori sono caricati con olio POE o PAG prima dei test meccanici ed elettrici a fine linea di assemblaggio	●	●	●
	**Oil pump forced lubrication (FL)** Lubrificazione mediante pompa olio (FL)	-	-	●
	**LP and HP valve (LPSV-HPSV)** Valvola di sicurezza LP e HP	●	●	●

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] LP+HP	60 Hz [m³/h] LP+HP	LP+HP	[LITERS]	Socket welding [mm]	Butt welding [mm]	Socket welding [mm]	Butt welding [mm]	[kg]
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	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]
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

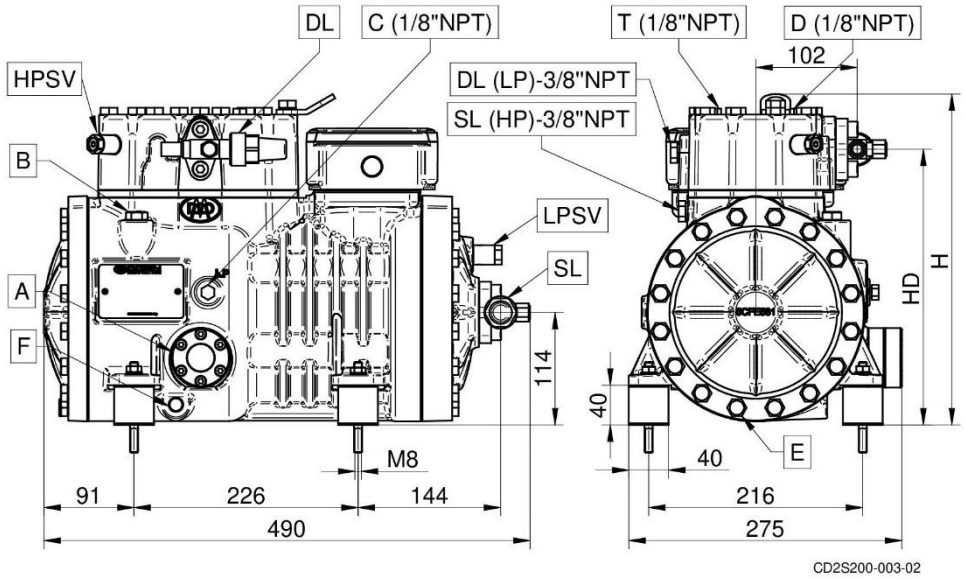
* **The current value refers to the direct connection.**

*Valore per collegamento diretto

Technical Drawings
Disegno tecnico

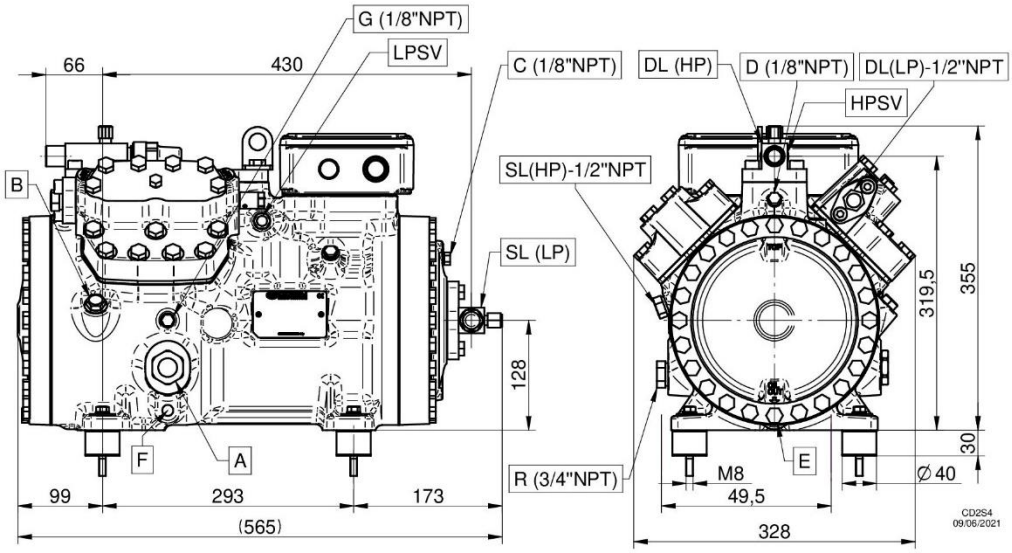
CD2S200

MODEL MODELLO	HD [mm]	H [mm]
CD2S300	278	334
CD2S350	278	334
CD2S360	281	336



CD2S4

MODEL MODELLO
CD2S550
CD2S750
CD2S900



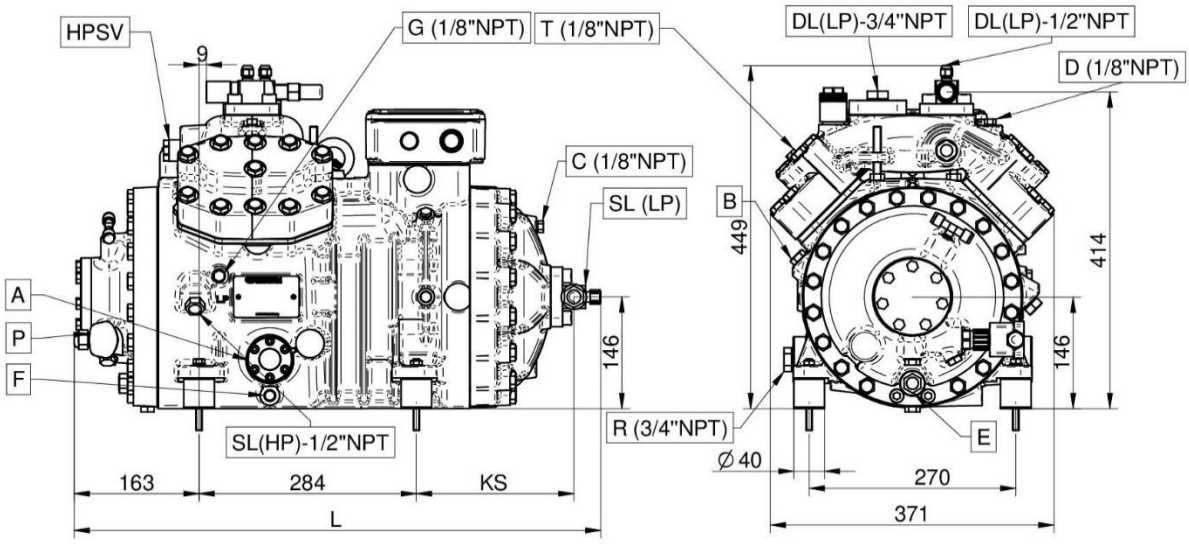
A - Oil sight - Spia Olio
B - Oil charge plug - Tappo carica Olio (M12)
C - Low pressure tap - Presa Bassa Pres. (1/8'' NPT)
D - High pressure tap - Presa Alta Pres. (1/8'' NPT)
E - Oil drain plug - Tappo scarica olio
F - Crankcase heater - Resistenza carter
G - Oil return plug - Tappo ritorno olio

R - Oil level connection - Connessione livello olio
DL(LP) - 1° stage discharge tap - 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 tap - Connessione aspir. 2° stadio
LPSV - LP safety valve - Valvola sic. LP
HPSV - HP safety valve - Valvola sic. HP

Technical Drawings
Disegno tecnico

CD2S400

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



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D - High pressure tap - 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
DL(LP) - 1° stage discharge tap - 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 tap - Connessione aspir. 2° stadio
LPSV - LP safety valve - Valvola sic. LP
HPSV - HP safety valve - Valvola sic. HP

NOTES

Note

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.

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