



OFFICINE MARIO DORIN SINCE 1918

DORIN[®]
INNOVATION



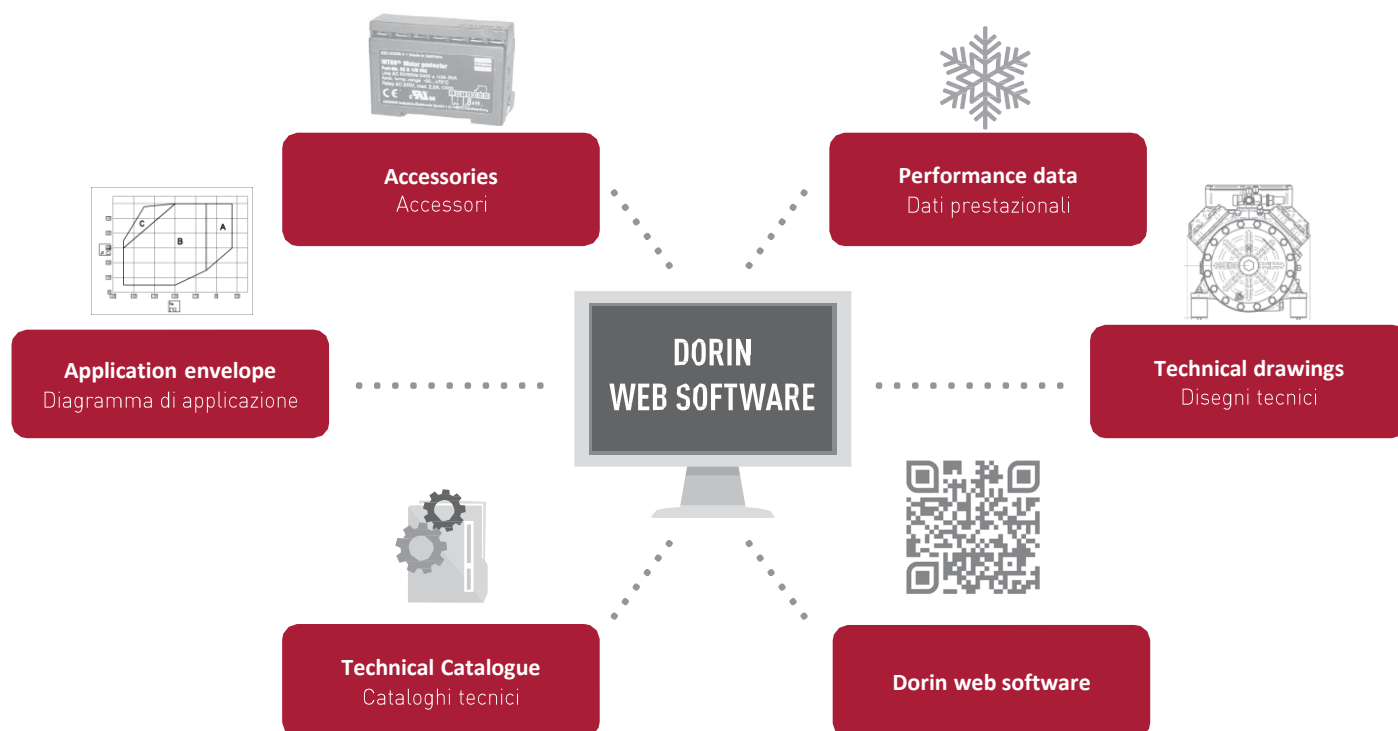
CD2S SERIES

60 Hz

SEMI-HERMETIC DOUBLE STAGE MOTOR COMPRESSORS
TRANSCRITICAL CO₂ APPLICATION



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

1450 PSI

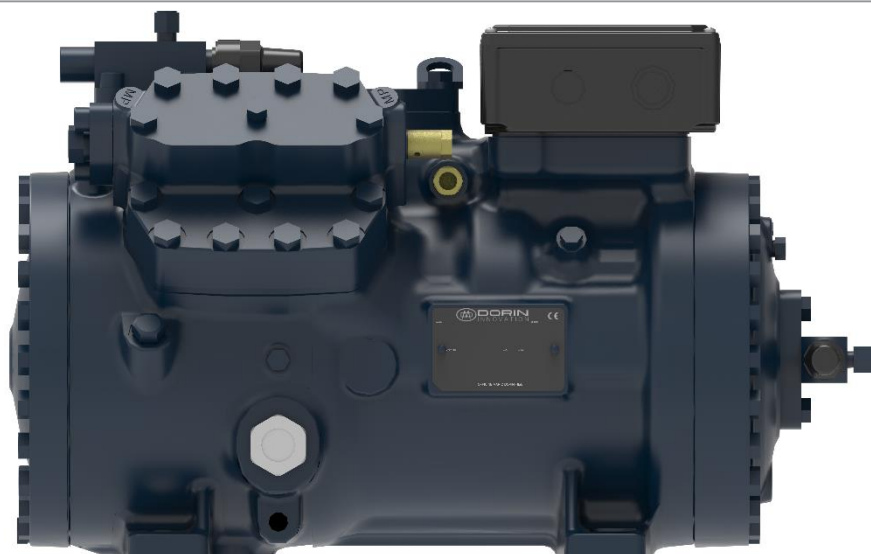
Standstill pressure
Pressione di standstill

2175 PSI

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



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

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 CO₂

Tutti i compressori possono lavorare con refrigerante CO₂



Unique CO₂ double stage compressor range

Range di compressori doppio stadio per CO₂ 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

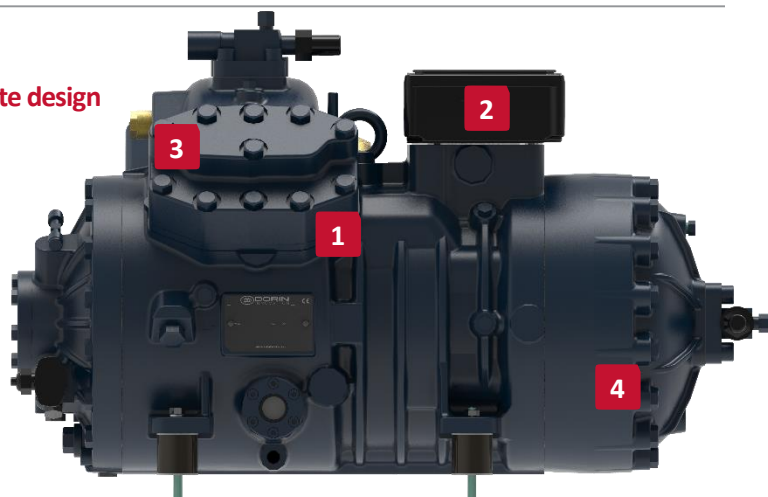
Enhanced lubrication secured by automotive design

Miglior lubrificazione, garantita dal design automotive

4

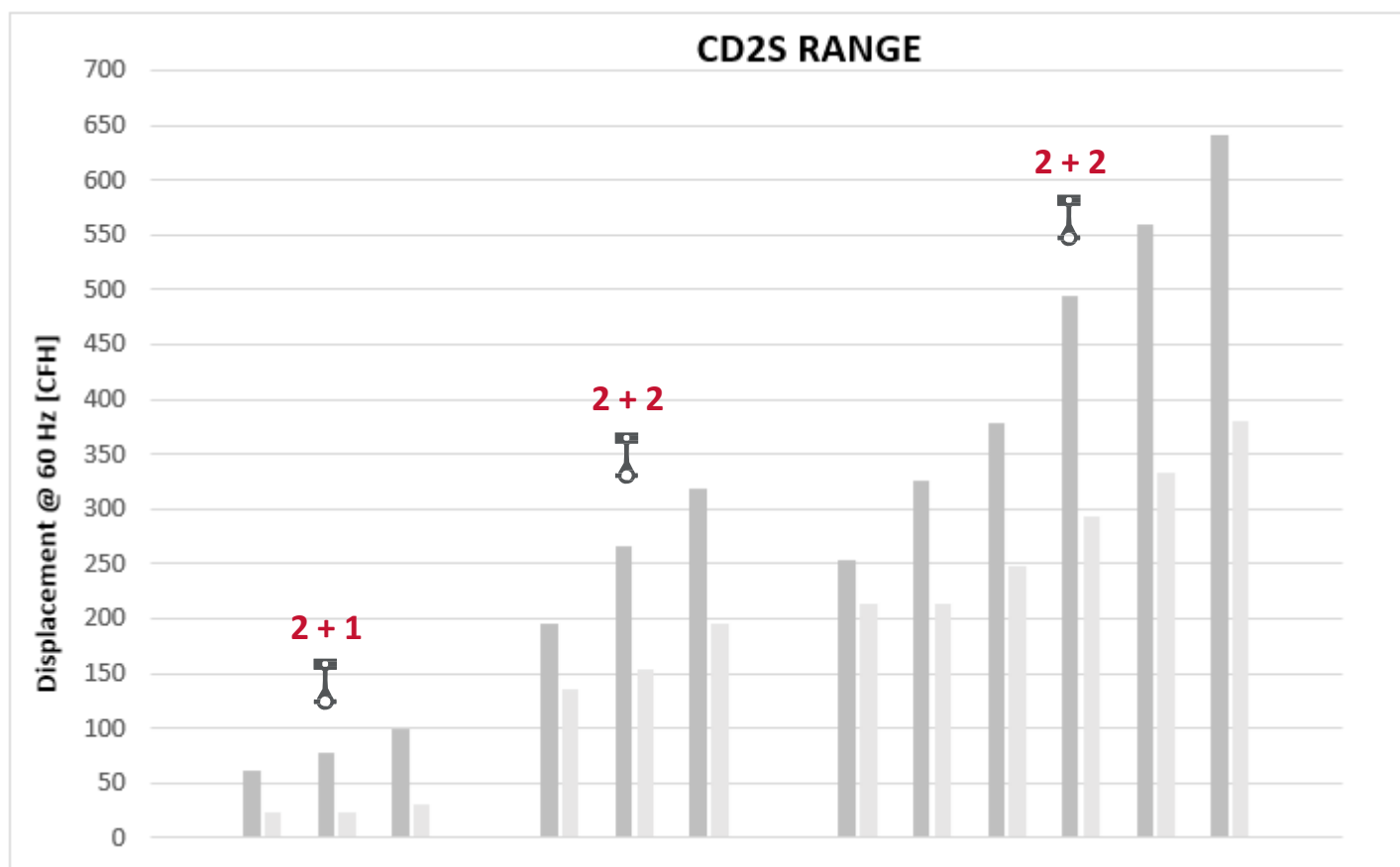
Proven reliability of the electric motor thanks to the unique resistance to high temperatures

Dimostrata affidabilità del motore elettrico grazie alla straordinaria resistenza alle alte temperature



CD2S Series – Displacement 60 Hz

Serie CD2S – Spostamento volumetrico 60 Hz



UNIQUE COMPRESSOR RANGE IN THE MARKET

FROM 61,45 (LP) – 24,01 (HP) CFH TO 640,25 (LP) – 380,69 (HP) CFH @ 60 Hz

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

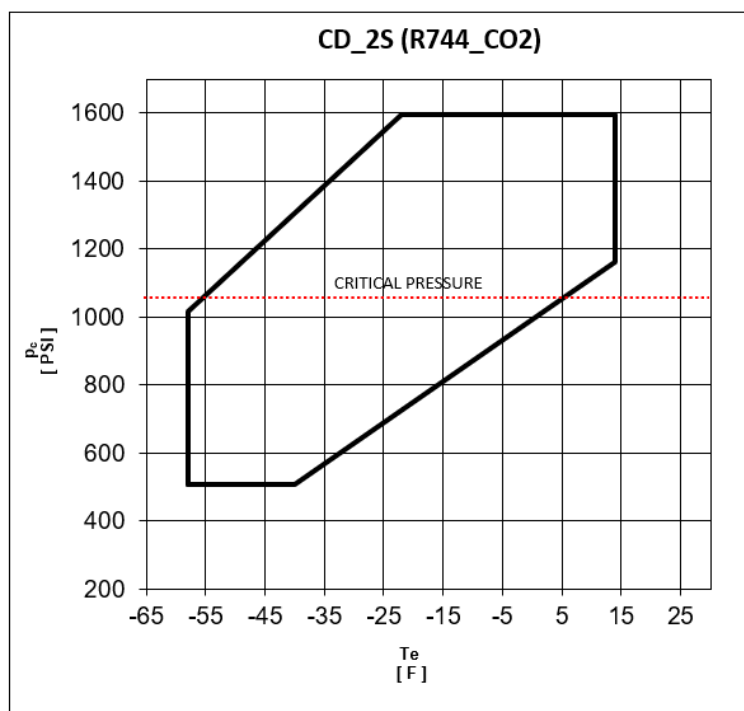
Applications CD2S SERIES

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

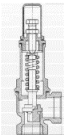
Il diagramma di applicazione cambia con il modello di compressore ed è disponibile per ogni modello e refrigerante nel web software di DORIN

Compressors application envelopes valid for superheat values lower than a differential of 20 °F

Diagramma di applicazione validi per surriscaldamenti in aspirazione non superiori a un differenziale di 20 °F

Standard And Optional Accessories

Accessori standard e opzionali

		MODEL		
● STANDARD ○ OPTIONAL		CD2S200	CD2S4	CD2S400
       	Motor Protection (MT) Protezione motore (MT)			
	Compressors are equipped with a PTC probe on every motor winding set at 248 °F. The sensor requires an external protection module to read the signal from the probe (BT008) I compressori sono equipaggiati con un sensore PTC su ogni avvolgimento del motore impostato a 248 °F. Il sensore richiede un modulo di protezione esterno per leggere il segnale in uscita dalla PTC (BT008)	●	●	●
	Electronic Protection Module (REL) Modulo elettronico protezione motore (REL)	○	●	●
	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 at 13,78 psi 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) I compressori equipaggiati con pompa olio utilizzano hanno un differenziale di pressione settato a 13,78 psi. La protezione per la pressione dell'olio deve essere connessa in serie a tutte le altre protezioni del compressore, come i termistori (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 (LPSV-HPSV)	●	●	●

CD2S SERIES

Oil Charge / Service Valves / Net Weight

Carica olio/ Rubinetti/ Peso netto

RANGE GAMMA	MODEL MODELLO	Displacement Spostamento volumetrico	CYLINDERS CILINDRI	OIL CHARGE CARICA OLIO	SUCTION ASPIRAZIONE		DISCHARGE SCARICO		NET WEIGHT PESO NETTO
		60 Hz LP + HP [CFH]	LP + HP	[fl.oz]	Socket welding [mm - in]	Butt welding [mm - in]	Socket welding [mm - in]	Butt welding [mm - in]	[lb]
CD2S200	CD2S300	61,45 + 24,01	2 + 1	44,0	10 - 3/8"	14 - 0,55"	10 - 3/8"	14 - 0,55"	165
	CD2S350	76,98 + 24,01	2 + 1	44,0	10 - 3/8"	14 - 0,55"	10 - 3/8"	14 - 0,55"	172
	CD2S360	99,94 + 31,07	2 + 1	44,0	10 - 3/8"	14 - 0,55"	10 - 3/8"	14 - 0,55"	176
CD2S4	CD2S550	195,29 + 135,61	2 + 2	57,5	22 - 7/8"	28 - 1 1/8"	18 - 3/4"	24 - 0,95"	247
	CD2S750	265,56 + 154,33	2 + 2	57,5	22 - 7/8"	28 - 1 1/8"	18 - 3/4"	24 - 0,95"	251
	CD2S900	318,54 + 195,29	2 + 2	57,5	22 - 7/8"	28 - 1 1/8"	18 - 3/4"	24 - 0,95"	256
CD2S400	CD2S1200	253,91 + 214,36	2 + 2	84,5	22 - 7/8"	28 - 1 1/8"	22 - 7/8"	28 - 1 1/8"	362
	CD2S1500	326,66 + 214,36	2 + 2	84,5	22 - 7/8"	28 - 1 1/8"	22 - 7/8"	28 - 1 1/8"	368
	CD2S2000	377,87 + 247,91	2 + 2	84,5	22 - 7/8"	28 - 1 1/8"	22 - 7/8"	28 - 1 1/8"	377
	CD2S2500	493,70 + 293,11	2 + 2	84,5	22 - 7/8"	28 - 1 1/8"	22 - 7/8"	28 - 1 1/8"	386
	CD2S3000	560,09 + 333,02	2 + 2	84,5	22 - 7/8"	28 - 1 1/8"	22 - 7/8"	28 - 1 1/8"	401
	CD2S3500	640,25 + 380,69	2 + 2	84,5	22 - 7/8"	28 - 1 1/8"	22 - 7/8"	28 - 1 1/8"	421

CD2S SERIES

Electric Motor FLA (Full Load Ampere)

Massima corrente di funzionamento FLA (Full Load Ampere)

RANGE GAMMA	MODEL MODELLO	MAX OPERATING CURRENT MASSIMA CORRENTE DI FUNZIONAMENTO								MAX ABS POWER MASS.POT. ASSORBITA
		V / ph / Hz [A]								60 Hz [kW]
		265-290 / 3 / 60 D	440-480 / 3 / 60 Y	208-230 / 3 / 60 D	360-400 / 3 / 60 Y	440-480 / 3 / 60 PWS	208-230 / 3 / 60 PWS	360-400 / 3 / 60 PWS	570-630 / 3 / 60	
CD2S200	CD2S300	10,4	6,0	12,5	7,2	-	-	-	4,8	4,4
	CD2S350	12,6	7,3	15,1	8,7	-	-	-	5,8	5,1
	CD2S360	12,9	7,5	15,5	8,9	-	-	-	6,0	5,3
CD2S4	CD2S550	25,0	14,5	30,0	17,4	14,5	-	-	11,6	10,5
	CD2S750	34,0	19,5	41,0	23,5	19,5	-	-	15,6	13,7
	CD2S900	40,0	23,0	48,0	27,5	23,0	-	-	18,4	16,6
CD2S400	CD2S1200	48,0	28,0	58,0	33,5	28,0	58,0	33,5	22,5	20,2
	CD2S1500	59,0	34,0	71,0	41,0	34,0	71,0	41,0	27,0	23,4
	CD2S2000	66,0	38,0	79,0	45,5	38,0	79,0	45,5	30,5	27,2
	CD2S2500	78,0	45,0	93,0	54,0	45,0	93,0	54,0	36,0	31,9
	CD2S3000	97,0	56,0	116,0	67,0	56,0	116,0	67,0	45,0	40,1
	CD2S3500	130,0	75,0	156,0	90,0	75,0	156,0	90,0	60,0	53,9

Electric Motor LRA (Locked Rotor Ampere)

Corrente a rotore bloccato LRA (Locked Rotor Ampere)

RANGE GAMMA	MODEL MODELLO	LOCKED ROTOR CURRENT CORRENTE A ROTORE BLOCCATO							
		V / ph / Hz [A]							
		265-290 / 3 / 60 D	440-480 / 3 / 60 Y	208-230 / 3 / 60 D	360-400 / 3 / 60 Y	440-480 / 3 / 60 PWS *	208-230 / 3 / 60 PWS *	360-400 / 3 / 60 PWS *	570-630 / 3 / 60
CD2S200	CD2S300	42,0	24,5	51,0	29,5	-	-	-	19,6
	CD2S350	55,0	32,0	66,0	38,5	-	-	-	25,5
	CD2S360	59,0	34,0	71,0	41,0	-	-	-	27,0
CD2S4	CD2S550	109,0	63,0	131,0	76,0	63,0	-	-	50,4
	CD2S750	149,0	86,0	179,0	103,0	86,0	-	-	68,8
	CD2S900	159,0	92,0	191,0	110,0	92,0	-	-	73,6
CD2S400	CD2S1200	233,0	135,0	280,0	162,0	135,0	280,0	162,0	108,0
	CD2S1500	295,0	171,0	354,0	205,0	171,0	354,0	205,0	136,0
	CD2S2000	306,0	177,0	367,0	212,0	177,0	367,0	212,0	142,0
	CD2S2500	351,0	203,0	421,0	244,0	203,0	421,0	244,0	162,0
	CD2S3000	424,0	245,0	509,0	294,0	245,0	509,0	294,0	196,0
	CD2S3500	450,0	260,0	540,0	312,0	260,0	540,0	312,0	208,0

* FOR PWS: The current value refers to the direct connection. / * PER PWS Valore per collegamento diretto

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

For the complete list of compressors with UL approval, contact our technical service

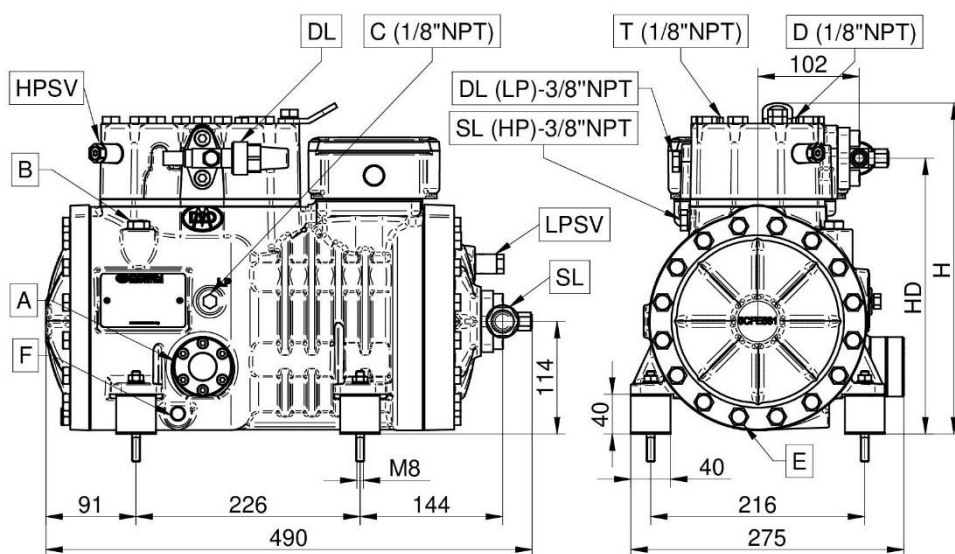
Per l'elenco completo dei compressori con omologazione UL contattare il nostro ufficio tecnico commerciale

Technical Drawings

Disegno tecnico

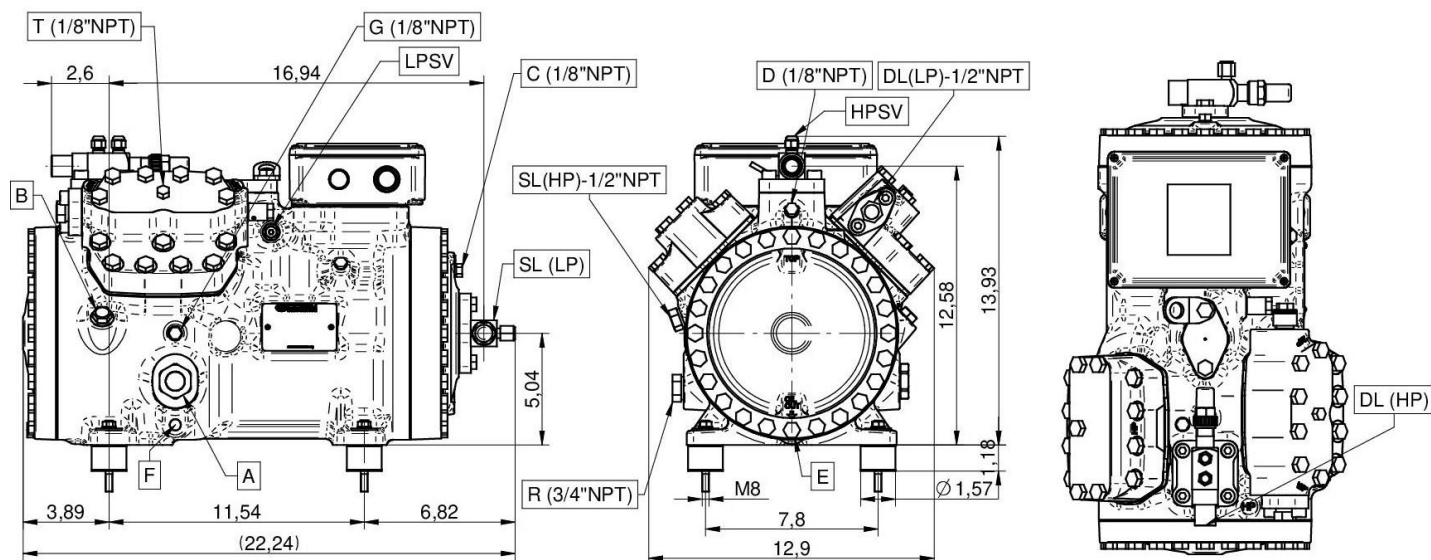
CD2S200

MODEL	HD	H
MODELLO	[in]	[in]
CD2S300	10,94	13,15
CD2S350	10,94	13,15
CD2S360	11,06	13,23



CD2S200-003-02

CD2S4



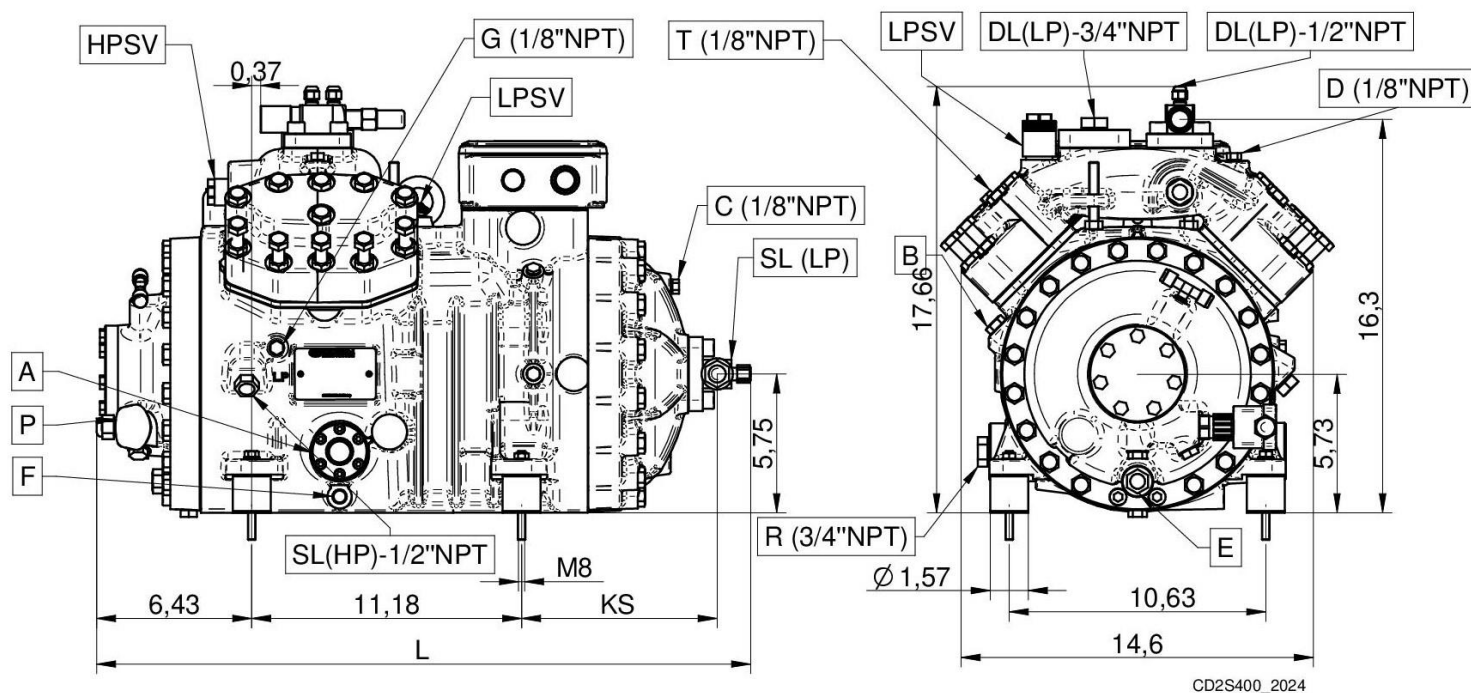
CD2S4_2024

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

**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**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



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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