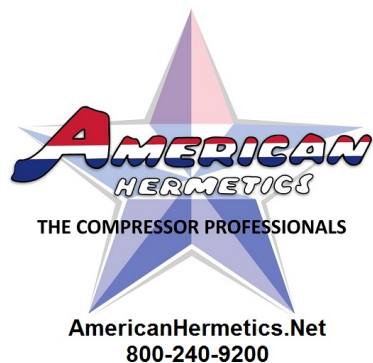




VS / 2S-VS SERIES

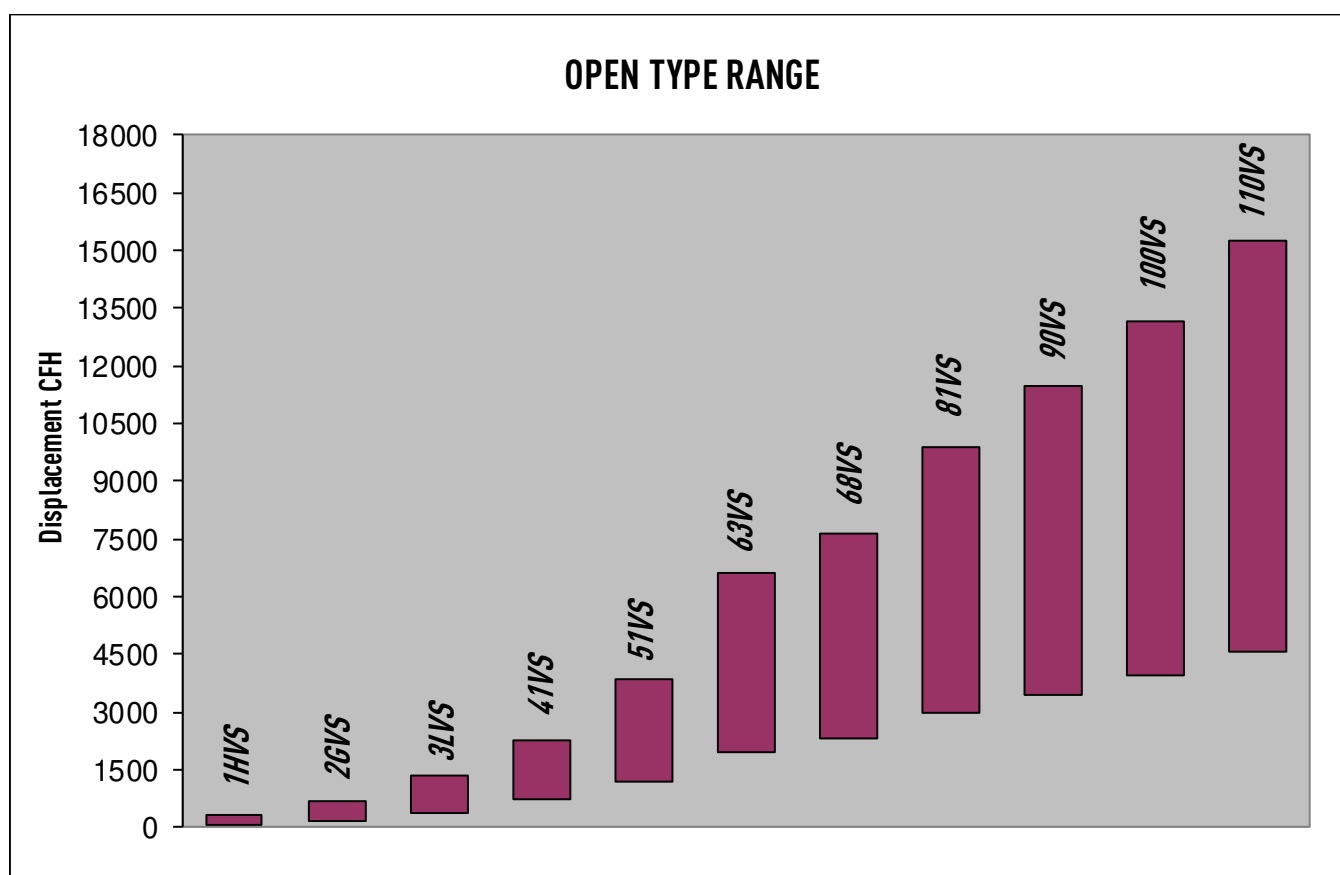
HFC APPLICATION
29.92 to 1135 in³



81VS-90VS
RANGE

OPEN TYPE COMPRESSORS
COMPRESSEURS TYPE OUVERT
COMPRESORES DE TIPO ABIERTO

■ Introduction / Introduction / Introducción	3
■ Application limits / Champs d'application / Límites de aplicación	4
■ Technical data / Caracteristiques techniques / Datos técnicos	6
■ Accessories / Accessoires / Accesorios	6
■ Performances Data / Données de puissance / Datos de actuaciones	8
R134a	8
R404A / R507	9
R22	10
2S-VS R404A / R507	11
2S-VS R22	11
■ Overall dimensions / Encombrements / Dimensiones totales	12



DORIN S.p.A. has been producing open compressor since 1932.

These compressors are constructed with the highest quality materials and are therefore suitable for working in particularly hard conditions.

Compressors are designed to offer top performance and special care has been given to have smooth and silent operation.

Compressors ranging between 1HVS and 51VS are lubricated via a sling disk. Those models can rotate only in a specific rotational sense, clearly marked on the compressor.

Compressors ranging between 63VS and 110VS are lubricated via a gear oil pump. Those models can rotate in both senses.

All open type compressors manufactured by DORIN can be provided in accordance to Directive 2014/34/EU – ATEX.

IMPORTANT NOTE

ATEX approval is excluding all mechanical components including but not limited to drive belts, inherent cases, and some electric components supplied with the compressor.

Each compressor shows following ATEX marking:

II = group II machinery

3 = category 3 (zone 2)

G = explosive atmosphere with gas, vapor or fog presence

c = protection type for non-electric equipment (constructive safety)

IIB = gas group

X = Special conditions for safe use:

- low mechanical risk
- Tamb: -4°F ÷ +140°F
- temperature class T3 or T4 according to the working condition. Temperature class can anyway be identified considering the given application, caring about what mentioned in the following application envelopes.

Dorin S.p.A. produit des compresseurs ouverts depuis 1932.

Ces compresseurs sont réalisés avec des matériaux de première qualité, ils sont donc indiqués pour un fonctionnement dans les conditions les plus délicates.

Les compresseurs ont été conçus pour offrir le maximum des prestations, et une attention particulière a été consacrée au contrôle du niveau de bruit.

Les compresseurs du 1HVS au 51VS sont réalisés sans pompe de l'huile, et ils sont lubrifiés par un disque de centrifugation. Ces modèles peuvent tourner seulement dans un sens de rotation, clairement indiqué sur la machine.

Les compresseurs du 63VS au 110VS sont lubrifiés par une pompe à lobe à haute pression. Ces modèles peuvent tourner dans les deux sens de rotation.

Tous les compresseurs ouverts réalisés par DORIN S.p.A. peuvent être fournis conformément à la directive 2014/34/UE – ATEX.

NOTE IMPORTANTE

La certification ATEX ne concerne aucune des pièces de transmission de mouvement (courroies, carters couvre-courroies, etc.) ni des composants électriques qui pourraient être fournis comme équipement.

Dans ce cas-là, sur le moto-compresseur est lisible le marquage ATEX ci-dessous :



II = dispositif du groupe II

3 = catégorie 3 (zone 2)

G = atmosphère explosive à la présence de gaz, de vapeurs ou de brouillards

c = mode de protection appareillages non électriques (sécurité constructive)

IIB = groupe de gaz

X = Conditions spéciales pour une utilisation sûre:

- faible risque mécanique
- Tamb: -4°F ÷ +140°F
- classe T3 ou T4 de température selon l'état de marche. L'utilisateur doit déduire la température maximale superficielle de l'installation en fonction de l'application, la calculant selon les indications des diagrammes d'application ci-dessous.

DORIN S.p.A. produce compresores abiertos desde 1932.

Estos compresores están fabricados con materiales de la máxima calidad y por lo tanto son adecuados para funcionar en condiciones especialmente difíciles.

Los compresores se han diseñados para ofrecer el mejor rendimiento y además se han tomado medidas especiales para que funcionen sin problemas y en silencio.

Los compresores entre 1HVS y 51VS se lubrican mediante un disco de eslinga. Estos modelos pueden girar solo en un sentido específico, que aparece marcado claramente sobre el compresor.

Los compresores entre 63VS y 110VS se lubrican mediante una bomba de aceite de engranajes. Estos modelos pueden girar en los dos sentidos.

Todos los compresores de tipo abierto fabricados por DORIN pueden suministrarse de conformidad con la directiva 2014/34/UE sobre atmósferas explosivas (ATEX).

NOTA IMPORTANTE

La aprobación ATEX excluye todos los componentes mecánicos, tales como correas de transmisión o cajas inherentes, y algunos componentes eléctricos suministrados con el compresor.

Cada compresor muestra la siguiente marca ATEX:

II = maquinaria de grupo II

3 = categoría 3 (zona 2)

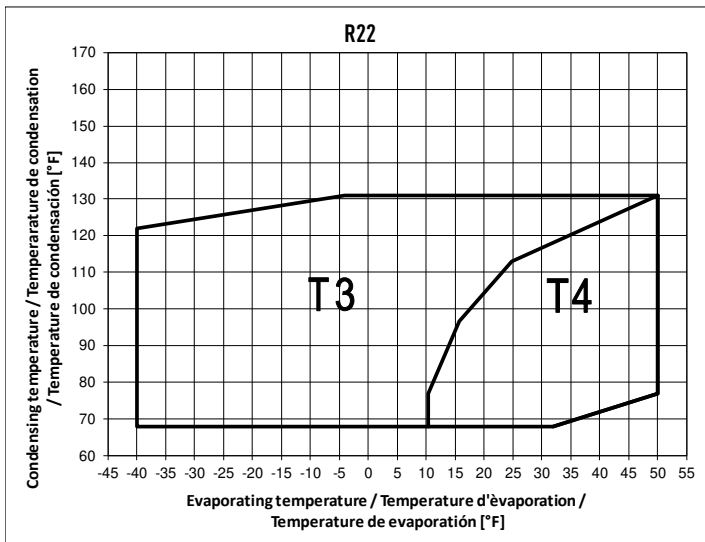
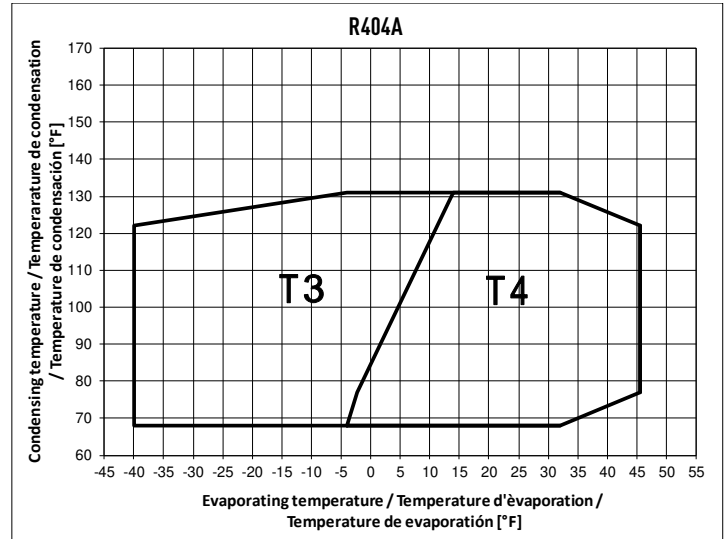
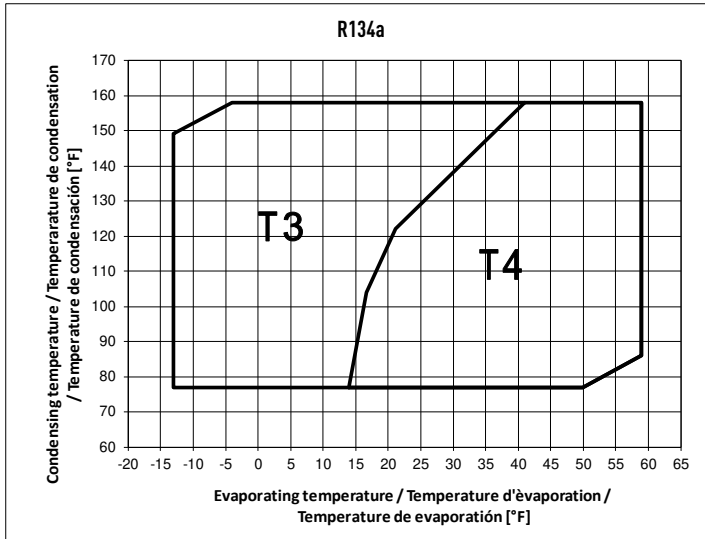
G = atmósfera explosiva en presencia de gas, vapor o niebla

c = tipo de protección para aparatos no eléctricos (seguridad constructiva)

IIB = grupo de gas

X = condiciones especiales para un uso seguro:

- riesgo mecánico bajo
- Temperatura ambiente: de -4°F a +140°F
- Clase de temperatura T3 o T4 según las condiciones de funcionamiento. La clase de temperatura puede identificarse teniendo en cuenta la aplicación dada y atendiendo a lo mencionado en las siguientes carcasas para aplicaciones.



T3 maximum surface temperature 392°F

T4 maximum surface temperature 275°F

Suction gas superheat < 54 °F

T3 température de surface maximale 392°F

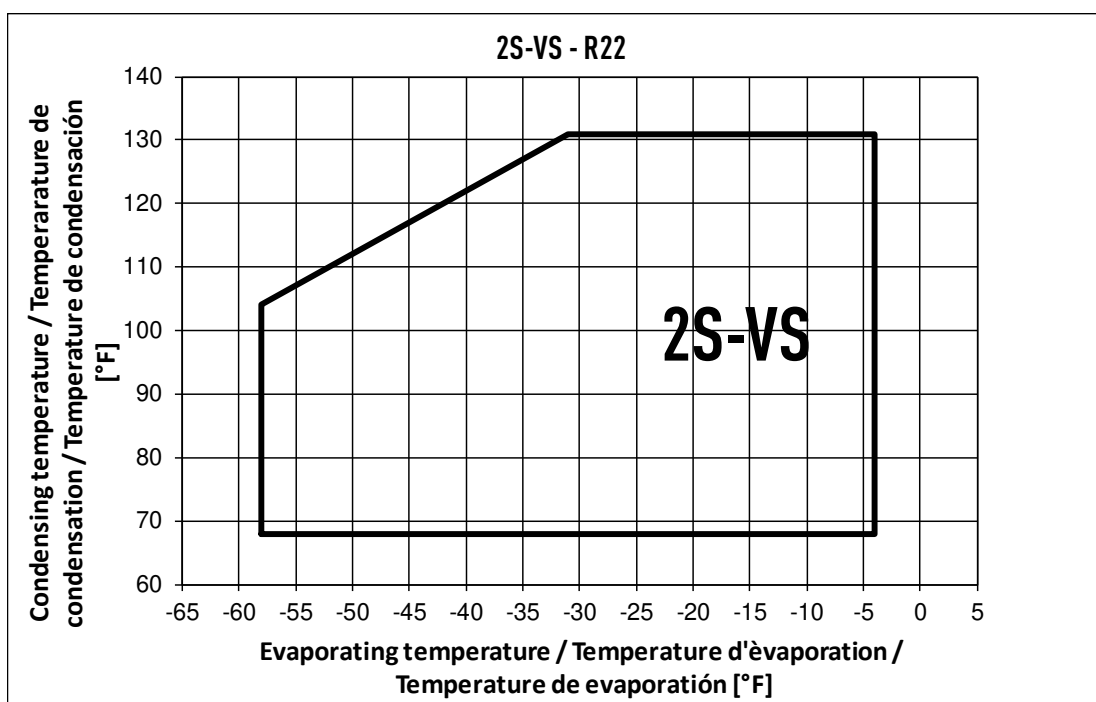
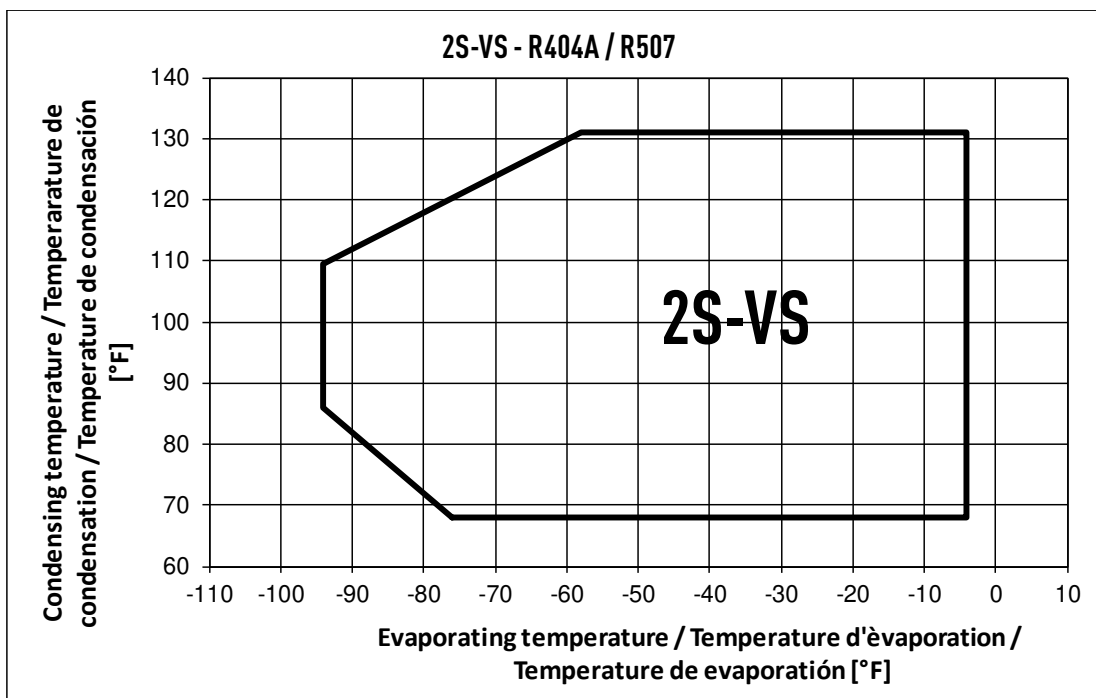
T4 température de surface maximale 275°F

Surchauffe à l'aspiration < 54 °F

T3 temperatura superficial máxima de 392°F

T4 temperatura superficial máxima de 275°F

Sobrecalentamiento del gas de aspiración < 54 °F



- Use with R22 only where permitted by national legislation
- Utiliser avec R22 seulement lorsque cela est autorisé par la législation nationale
- Uso con R22 solamente si lo permite la legislación nacional

Model Modèle Modelo	Cyl. Cyl. Cil.	Bore Alésage Diámetro	Stroke Course Carrera	Swept volume Cylindrée Cilindrada	Displacement Volume bal. Volumen desplazado		Suction Aspiration Aspiración	Discharge Refolement Descarga	Flywheel Volant Volante	Oil charge Charge huile Carga aceite	Weight Poids Peso neto	r.p.m. tr / mn r.p.m.		Power input Puissance absorbée Potencia absorbida
	n	[in]	[in]	[in ³]	CFH		SL [in]	DL [in]	[in] *	[lb]	[lb] **	min	max	kW
1HVS	2	1,77	0,945	4,64	234	@ 1450	5/8f	1/2f	5,20	0,9	24,3	500	1450	0.245 - 1.47
2GVS	2	2,36	1,18	10,34	521	@ 1450	3/4f	5/8f	6,30	2,2	48,5	500	1450	1.47 - 5.52
3LVS	2	2,40	2,36	21,40	966	@ 1300	1 1/8s	3/4f	10,63	3,3	83,8	500	1300	2.94 - 11.0
41VSR	2	2,91	2,56	34,17	1543	@ 1300	1 1/8s	7/8s	11,93	6,6	172	600	1300	4.05 - 14.7
41VSM/3B	2	2,91	2,56	34,17	1543	@ 1300	1 3/8s	1 1/8s	11,93	6,6	172	600	1300	4.05 - 14.7
41VSM/4B	2	2,91	2,56	34,17	1543	@ 1300	1 3/8s	1 1/8s	11,93	6,6	181	600	1300	4.05 - 14.7
51VSR	2	3,46	3,07	57,91	2614	@ 1300	1 3/8s	1 1/8s	13,19	8,8	260	600	1300	7.35 - 22.1
51VSM	2	3,46	3,07	57,91	2614	@ 1300	1 5/8s	1 3/8s	13,19	8,8	260	600	1300	7.35 - 22.1
63VS/4B	4	3,07	2,56	75,97	3825	@ 1450	1 5/8s	2 x 1 1/8s	12,20	12,1	344	750	1750	11.0 - 36.8
63VS/6B	4	3,07	2,56	75,97	3825	@ 1450	1 5/8s	2 x 1 1/8s	12,20	12,1	344	750	1750	11.0 - 36.8
63VSC/6B	4	3,07	2,56	75,97	3825	@ 1450	1 5/8s	1 3/8s	12,20	12,1	344	750	1750	11.0 - 36.8
68VS/4B	4	3,31	2,56	87,87	4424	@ 1450	2 1/8s	1 3/8s	12,20	12,1	344	750	1750	11.0 - 55.2
68VS/6B	4	3,31	2,56	87,87	4424	@ 1450	2 1/8s	1 3/8s	12,20	12,1	344	750	1750	11.0 - 55.2
81VS	6	3,07	2,56	113,81	5730	@ 1450	2 1/8s	1 5/8s	12,20	14,3	448	750	1750	11.0 - 73.5
90VS	6	3,31	2,56	131,81	6636	@ 1450	2 1/8s	1 5/8s	12,20	14,3	448	750	1750	11.0 - 73.5
100VS	8	3,07	2,56	151,64	7635	@ 1450	3 1/8s	2 1/8s	12,20	18,7	529	750	1750	14.7 - 91.9
110VS	8	3,31	2,56	175,87	8855	@ 1450	3 1/8s	2 1/8s	12,20	18,7	529	750	1750	14.7 - 91.9

FW Flywheel Volant Volante	CH Crankcase heater Résistance carter Resistencia cárter	BF Head fan Ventilation auxiliaire Ventilación enfriamiento auxiliar
WH Water cooled head Tête refroidie à eau Refrigeración de la culata con agua	CR Capacity control Régulateur de puissance Regulador de potencia	US Unloaded start Démarrage à vide By-pass arranque

Model Modèle - Modelo	* FW	* CH	BF	* WH	* CR	* US
1HVS	B	B				
2GVS	B	B				
3LVS	B	B	B			
41VSR	B	B	B	B		
41VSM/3B	B	B	B	B		
41VSM/4B	B	B	B	B		
51VSR	B	B	B	B		
51VSM	B	B	B	B		
63VS/4B	B	B	B	B	B	B
63VS/6B	B	B	B	B	B	B
63VSC/6B	B	B	B	B	B	B
68VS/4B	B	B	B	B	B	B
68VS/6B	B	B	B	B	B	B
81VS	B	B	B	B	B	B
90VS	B	B	B	B	B	B
100VS	B	B	B	B	B	B
110VS	B	B	B	B	B	B
2S-81VS	B	B	B	B	B	B
2S-90VS	B	B	B	B	B	B

•* Available for ATEX version / Disponible pour la version ATEX / Disponible en versión ATEX

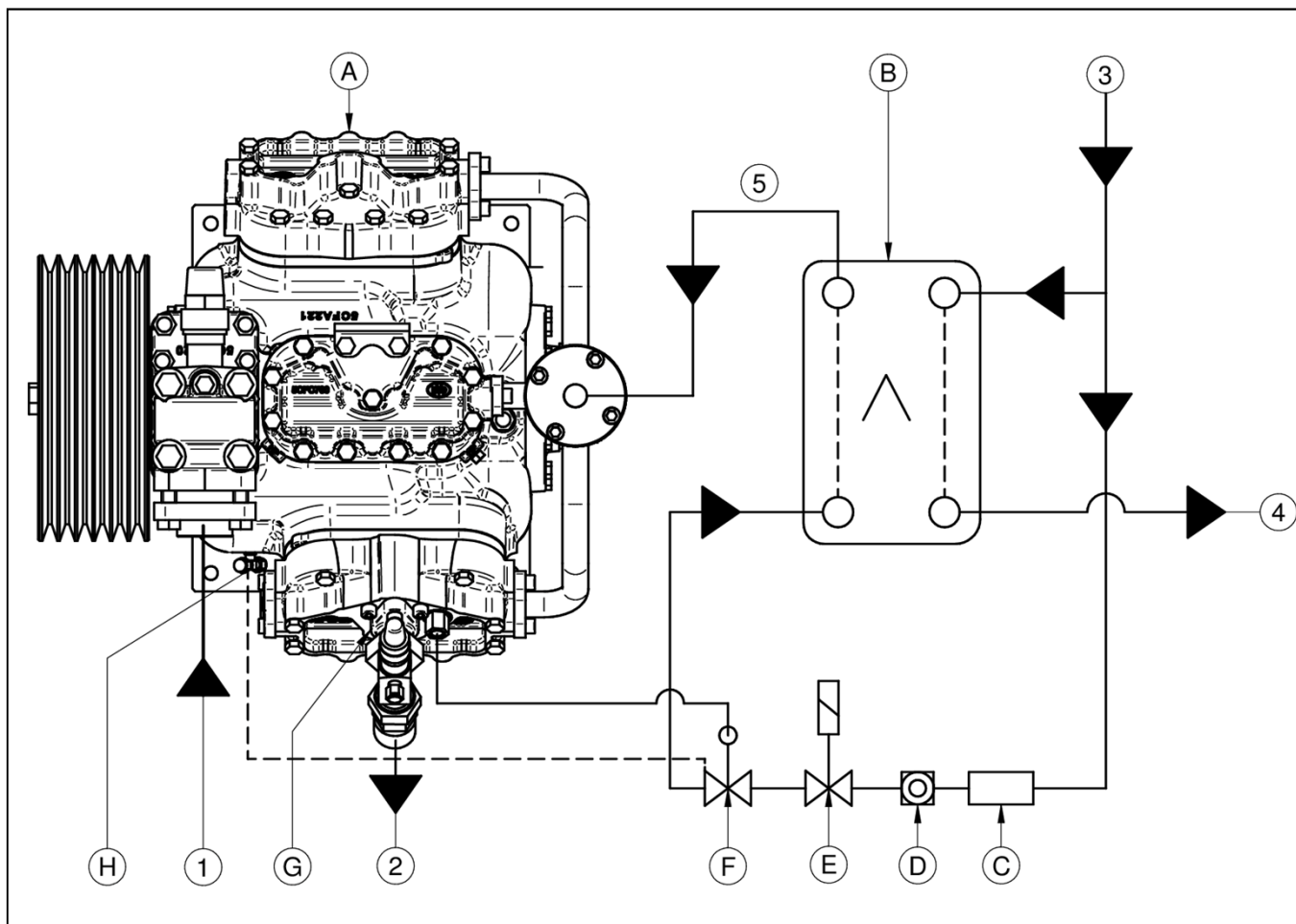
B Optional accessories / Accessoires sur demande / Accesorios opcionales

Model Modèle Modelo	Number of Cylinders Nombre Cylindres Número de Cilindros		Bore Alésage Diámetro	Stroke Course Carrera	Swept volume Cylindrée Cilindrada		Displacement Volume bal. Volumen desplazado		Suction Aspiration Aspiración	Discharge Refolement Descarga	Flywheel Volant Volante	Oil charge huile Carga aceite	Weight Poids Peso neto	r.p.m. tr / mn r.p.m.		Power input Puissance absorbée Leistungsaufnahme
	LP	HP			LP	HP	LP	HP						min	max	
			[in]	[in]	[in ³]		CFH @ 1450		SL [in]	DL [in]	[in] *	[lb]	[lb] **			kW
2S-81VS	4	2	3.07	2.56	75.8	37.9	3816	1908	2 1/8s	1 5/8s	12.20	14.3	476	750	1750	11.0 - 73.5
2S-90VS	4	2	3.31	2.56	87.9	43.9	4424	2212	2 1/8s	1 5/8s	12.20	14.3	476	750	1750	11.0 - 73.5

* Belts types / Type de courroies / Tipos de correas

** Gross weight with flywheel / Poids brut avec volant / Peso bruto con volante

2S-VS



A - Compressor
B - Liquid subcooler
C - Filter
D - Indicator
E - Solenoid valve
F - Expansion valve
G - Non return valve
H - Low pressure tap

1 - From evaporator
2 - To condenser
3 - From liquid line
4 - To evaporator
5 - To II stage suction

A - Compresseur
B - Sous-refroidisseur de liquide
C - Filtre
D - Indicateur
E - Soupape solénoïde
F - Détendeur thermostatique
G - Soupape de retenue
H - Prise basse pression

1 - Du évaporateur
2 - Au condenseur
3 - Du ligne de liquide
4 - Au évaporateur
5 - Au aspiration du II étages

A - Visor aceite
B - Tapón para aceite
C - Toma baja presión
D - Toma alta presión
E - Tapón vaciado aceite
F - Resistencia cárter
G - Retorno aceite
H - Toma alta presión

1 - Desde el evaporador
2 - Al condensador
3 - Desde la línea de líquido
4 - Al evaporador
5 - A la aspiración de la segunda etapa

Range Serie Rango	Model Modèle Modelo	r.p.m. tr / mn r.p.m.	Cond. Temp. Temp. Cond. Temp. Cond.	Q [BTU/h]	Capacità frigorifera Refrigerating capacity Potencia frigorífica						
					Evaporating temperature Température d'évaporation / Temperature de evaporación [°F]						
			[°F]	-15	-20	-30	-40	-50	-60	-70	-75
2S-VS Without Liquid Subcooler	2S-81VS	1450	90	122217	109750	86798	66892	51445	38988	28467	24132
			105	108668	97253	75827	57191	43988	33864	-	-
			120	94027	83716	64759	47633	36669	27827	-	-
	2S-90VS	1450	90	141700	127143	100657	77557	59620	44804	32829	27852
			105	125863	112415	87912	66231	50922	38275	-	-
			120	108947	97002	75072	55190	42512	32014	-	-
2S-VS With Liquid Subcooler	2S-81VS	1450	90	142324	130174	107089	85816	68614	53377	40655	35138
			105	134914	123083	100361	78862	63160	49174	-	-
			120	127569	115885	93556	71814	57819	45458	-	-
	2S-90VS	1450	90	165023	150949	124187	99590	79591	61880	47168	40736
			105	156458	142751	116401	91581	73230	57077	-	-
			120	147998	134394	108517	83288	67009	52715	-	-

R404A
R507
2S-VS

Range Serie Rango	Model Modèle Modelo	r.p.m. tr / mn r.p.m.	Cond. Temp. Temp. Cond. Temp. Cond.	Q [BTU/h]		Capacità frigorifera Refrigerating capacity Potencia frigorífica						
						Evaporating temperature						
						Température d'évaporation / Temperature de evaporación [°F]						
			[°F]	-15	-20	-30	-40	-50	-60	-70	-75	
2S-VS Without Liquid Subcooler	2S-81VS	1450	90	124596	114858	92650	74021	53691	36882	26057	19815	
			105	119650	110258	90109	73497	51479	34432	26148	19794	
			120	119005	107102	88165	73067	48680	32733	26200	19764	
	2S-90VS		90	143383	132754	106483	84187	61470	42360	29581	22552	
			105	136933	126550	102574	82291	59159	40159	29071	22086	
			120	134260	121897	99519	80964	55717	38338	28703	21518	
2S-VS With Liquid Subcooler	2S-81VS	1450	90	141455	132508	108984	88190	66270	46663	30681	23440	
			105	139143	130438	107269	86381	64237	44348	30227	23066	
			120	136937	128407	105567	84809	62427	43388	29662	22687	
	2S-90VS		90	164122	153662	126357	102395	76834	54117	35627	27207	
			105	161359	151139	124291	100175	74310	51395	35049	26709	
			120	158831	148880	122391	98288	72327	50290	34379	26241	

R22
2S-VS

▪ Preliminary data

- Performance data with liquid subcooling.
- 68 °F suction gas temperature and 0 °F liquid subcooling at the outlet of the condenser
- Use with R22 only where permitted by national legislation
- Never mix ester oils with different oils

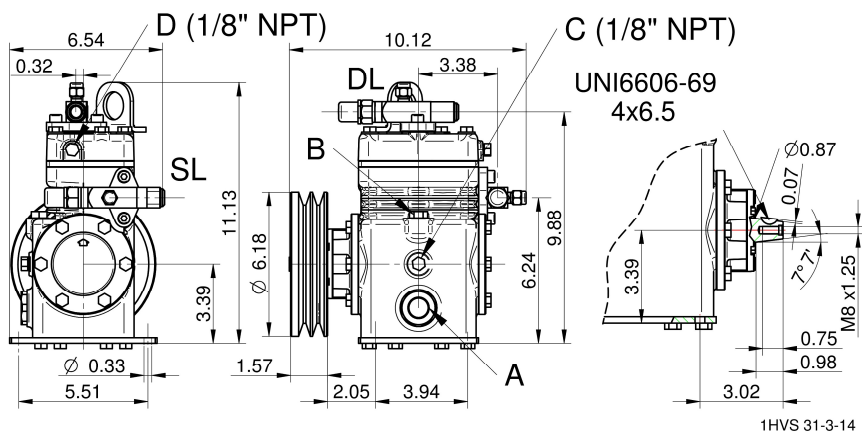
▪ Données préliminaires

- Données de puissance avec sous-refroidissement de liquide.
- 68 °F de température du gaz d'aspiration et sous-refroidissement de liquide 0 °F au sortie du condenseur.
- Utiliser avec R22 seulement lorsque cela est autorisé par la législation nationale
- Ne mélanger jamais ester huiles avec different huiles

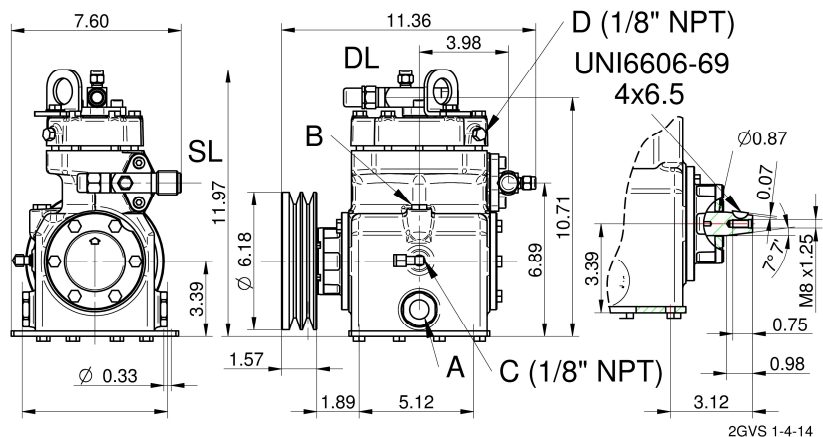
▪ Datos preliminares

- Datos de rendimiento con subenfriamiento de líquido
- Temperatura del gas de aspiración a 68 °F y subenfriamiento de líquido de 0 °F en la salida del condensador.
- Uso con R22 solamente si lo permite la legislación nacional
- No mezcle nunca ésteres de aceites con aceite diferentes

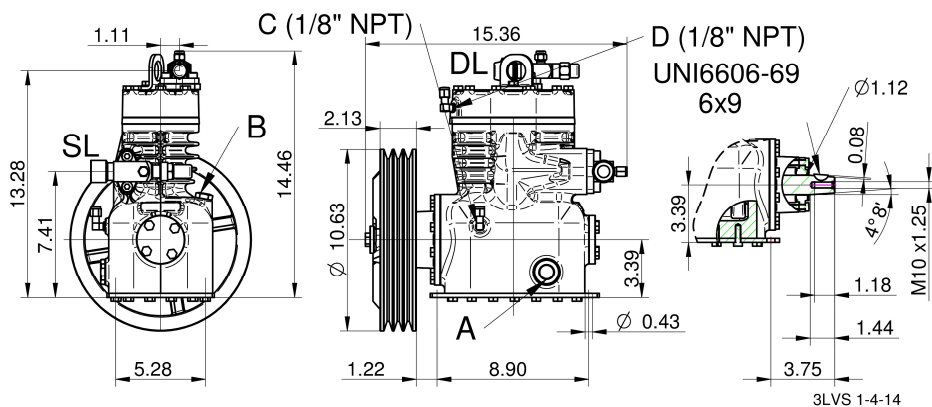
1HVS



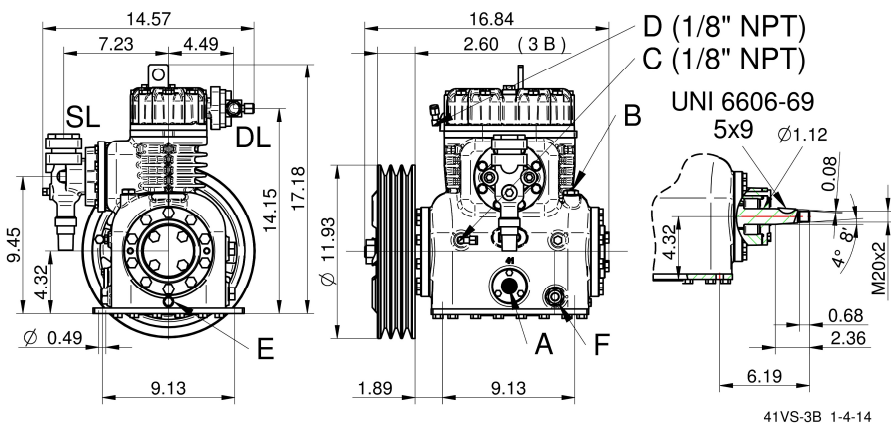
2GVS

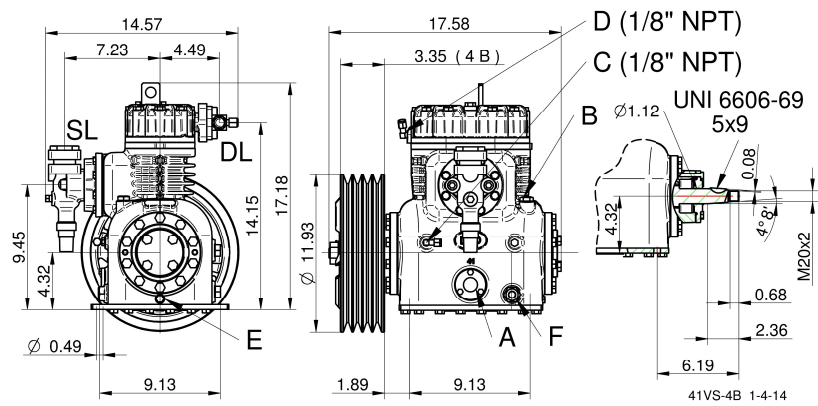
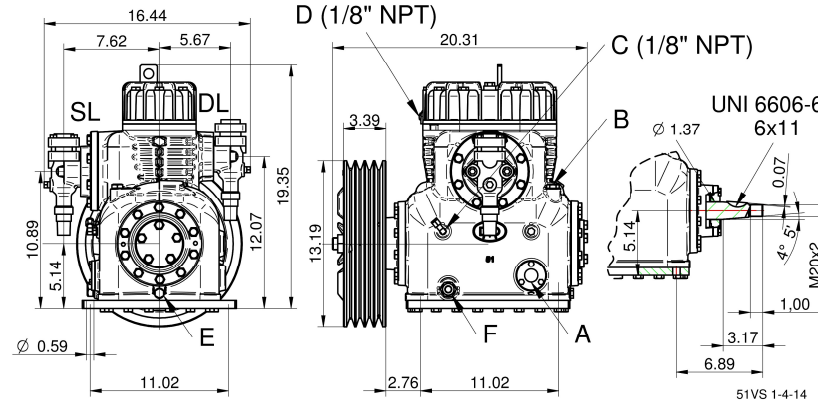
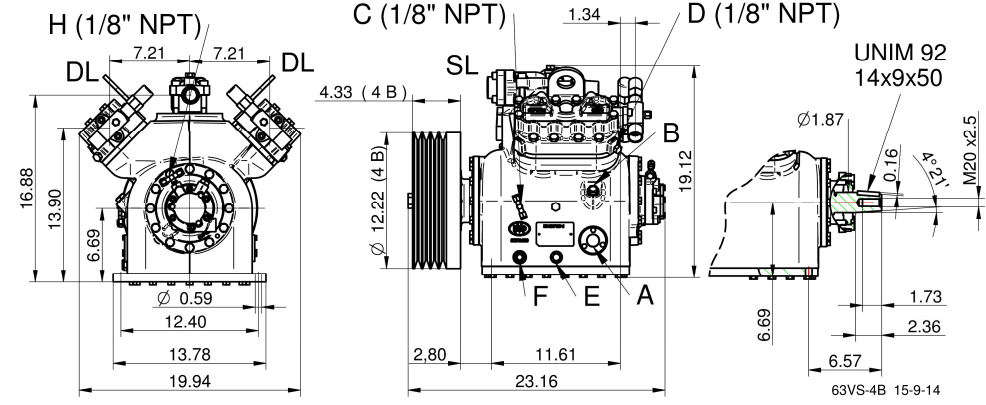
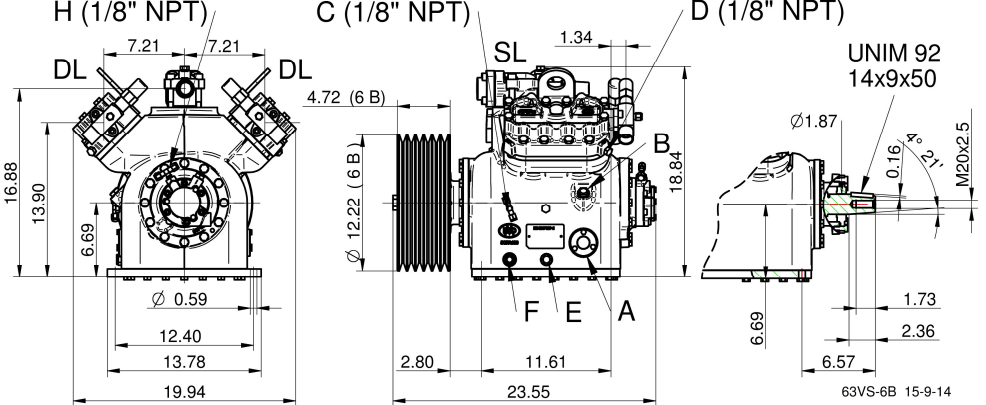


3LVS

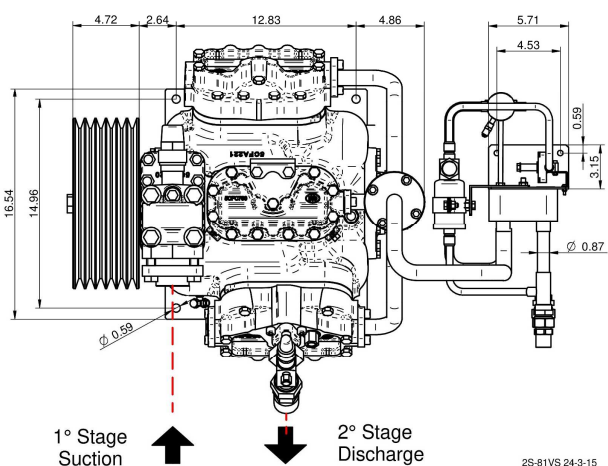
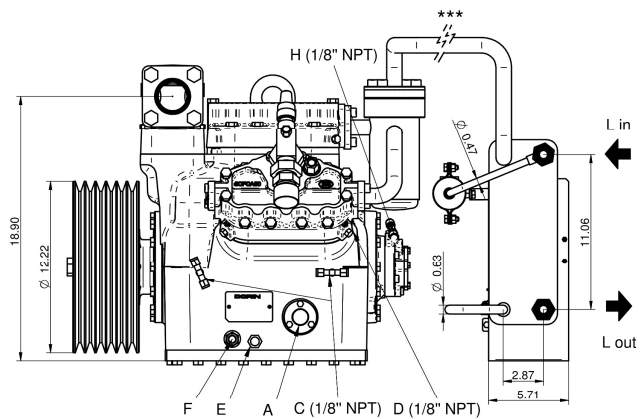
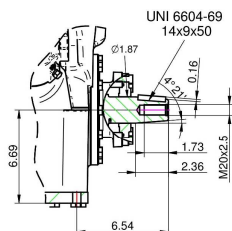
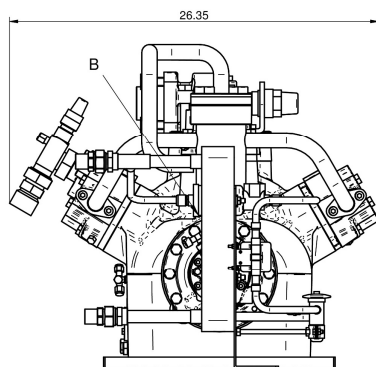


**41VSR
 41VSM/3
 B**



41VSM/4B	 Technical drawing of the 41VSM/4B valve. It includes three views: a front view, a side view, and a detail view of the actuator. The front view shows a circular body with a central port and two side ports labeled SL and DL. Dimensions include a total width of 14.57, a central port diameter of 0.49, and a body diameter of 9.13. The side view shows a height of 17.18 and a total width of 17.58. The detail view shows a UNI 6606-69 5x9 actuator with a 4° 21' angle and an M20x2 thread. Other dimensions include 9.45, 4.32, 7.23, 4.49, 14.15, 11.93, 1.89, 9.13, 3.35 (4 B), 1.12, 4.32, 0.08, 4° 8', 0.68, 2.36, and 6.19.
51VSR 51VSM	 Technical drawing of the 51VSR/51VSM valve. It includes three views: a front view, a side view, and a detail view of the actuator. The front view shows a circular body with a central port and two side ports labeled SL and DL. Dimensions include a total width of 16.44, a central port diameter of 0.59, and a body diameter of 11.02. The side view shows a height of 19.35 and a total width of 20.31. The detail view shows a UNI 6606-69 6x11 actuator with a 4° 5' angle and an M20x2 thread. Other dimensions include 10.89, 5.14, 7.62, 5.67, 12.07, 13.19, 2.76, 11.02, 3.39, 1.37, 5.14, 0.07, 4° 5', 1.00, 3.17, 6.89, and 7.51.
63VS/4B	 Technical drawing of the 63VS/4B valve. It includes three views: a front view, a side view, and a detail view of the actuator. The front view shows a circular body with a central port and two side ports labeled DL. Dimensions include a total width of 19.94, a central port diameter of 0.59, and a body diameter of 13.78. The side view shows a height of 19.12 and a total width of 23.16. The detail view shows a UNIM 92 14x9x50 actuator with a 4° 21' angle and an M20x2.5 thread. Other dimensions include 16.88, 13.90, 6.69, 7.21, 7.21, 4.33 (4 B), 2.80, 11.61, 1.34, 1.87, 0.16, 4° 21', 1.73, 2.36, 6.57, and 6.69.
63VS/6B	 Technical drawing of the 63VS/6B valve. It includes three views: a front view, a side view, and a detail view of the actuator. The front view shows a circular body with a central port and two side ports labeled DL. Dimensions include a total width of 19.94, a central port diameter of 0.59, and a body diameter of 13.78. The side view shows a height of 18.84 and a total width of 23.55. The detail view shows a UNIM 92 14x9x50 actuator with a 4° 21' angle and an M20x2.5 thread. Other dimensions include 16.88, 13.90, 6.69, 7.21, 7.21, 4.72 (6 B), 2.80, 11.61, 1.34, 1.87, 0.16, 4° 21', 1.73, 2.36, 6.57, and 6.69.

63VSC/6B 68VS	H (1/8" NPT) C (1/8" NPT) SL 2.53 D (1/8" NPT) DL UNIM 92 14x9x50 Ø 0.59 12.40 13.78 19.94 18.17 6.69 20.26 17.69 12.22 Ø 12.22 4.72 2.80 11.61 23.93 6.69 1.73 2.36 6.57 68VS 15-9-14
81VS 90VS	H (1/8" NPT) C (1/8" NPT) SL 3.16 DL D (1/8" NPT) B UNI 6604-69 14x9x50 Ø 0.59 14.96 16.54 22.73 22.61 6.69 18.9 12.22 Ø 12.22 4.72 2.48 12.87 25.74 20.64 6.69 1.73 2.36 6.54 81VS-90VS 15-9-14
100VS 110VS	C (1/8" NPT) D (1/8" NPT) DL SL 2 x UNI 6604-69 14x9x50 Ø 0.59 14.96 16.54 23.77 10.74 4.28 627 6° 18.01 4.72 12.22 Ø 12.22 7.99 2.46 12.87 14.41 27.71 22.60 7.99 1.73 2.36 6.37 100VS-110VS 2-4-14

2S-81VS**2S-90VS**

2S-81VS 24-3-15

- Subcooler kit supplied loose. Position defined by customer
- Kit de refroidisseur fourni lâche. Position définie par le client
- Kit de subenfriamiento suministrado suelto. Posición definida por el cliente

- *** Interstage injection line (not supplied)
- *** Ligne d'injection intermédiaire (non fourni)
- *** Línea de inyección entre fases (no suministrada)

A - Oil sight	A - Voyant d'huile	A - Visor aceite
B - Oil charge plug	B - Bouchon charge huile	B - Tapón para aceite
C - Low pressure tap	C - Prise basse pression	C - Toma baja presión
D - High pressure tap	D - Prise haute pression	D - Toma alta presión
E - Oil drain plug	E - Bouchon vidange d'huile	E - Tapón vaciado aceite
F - Crankcase heater	F - Resistance carter	F - Resistencia cárter
H - Oil pressure tap	H - Prise pression huile	H - Toma alta presión
DL - Discharge service valve	DL - Vanne de refoulement	DL - Válvula servicio descarga
SL - Suction service valve	SL - Vanne aspiration	SL - Válvula servicio aspiración
Lin - Liquid Inlet	Lin - Entrée Liquide	Lin - Entrada líquido
Lout - Liquid outlet	Lout - Sortie Liquide	Lout - Salida líquido



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