

Embraco Compressors Portfolio

for Japan



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We are Nidec Global Appliance

A global partner for home and commercial refrigeration industries

With over 10,000 employees across 9 countries, Nidec Global Appliance manufactures and commercializes products for domestic and commercial applications, including Embraco refrigeration solutions and Nidec motors for washing machines, dryers and dishwashers. Nidec Global Appliance is a business platform within Nidec Appliance, Commercial and Industrial Motors (ACIM), a business unit of Nidec Corporation.

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Over 50 years
raising the bar
of refrigeration

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Since 1971 Embraco has been responsible for shaping refrigeration market trends by bringing solutions beyond the compressor for the residential and commercial cold chain. A pioneer in fostering the development of variable-speed and the use of natural refrigerants over the years, the brand delivers innovation driven by the Think Ahead positioning, which means focusing on the future's needs to transform the refrigeration segment and make its customers' lives easier. Embraco counts on a broad and competitive portfolio for food service, food retail, merchandisers, and medical applications, including complete, synchronized and integrated solutions, which combines efficiency and data intelligence.

	<p>Home Appliances</p> <p>Products for residential freezers, refrigerators and mini-fridges.</p>
	<p>Commercial Appliances</p> <p>Compressors and cooling solutions for commercial applications, such as bottle coolers, chest freezers, reach-ins, ice machines, medical refrigerators, etc.</p>
	<p>Aftermarket</p> <p>Parts distribution, replacement and retail focused on retail owners, installers and contractors.</p>

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Digital Tools



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Available in all countries and in more than 10 languages, the Embraco Tool Box has 7 functionalities which help refrigeration professionals on their daily routine. **Download the App now for Android and iOS systems.**



Find inside:

- Cross-reference
- Product catalogue
- Distributor locator
- Unit converter
- Refrigerant slider
- Refrigeration club
- Troubleshooting

PSS

Product Software Selector

Choose the best solution for your business at Embraco's official portfolio platform. Access: products.embraco.com








Embraco website in 11 languages
www.embraco.com

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FIXED-SPEED COMPRESSOR

<p>EM</p>  <p>Bottle coolers, ice cream freezers, household replacement, water coolers and vending machines. Up to 1/2 HP</p>	<p>EG</p>  <p>Household replacement and light commercial applications, horizontal freezers, reach ins, vending machines. Up to 1/3+ HP.</p>	<p>EH</p>  <p>Professional kitchens, bottle coolers, under counters, professional reach Ins. 1/2 HP to 3/4 HP</p>	<p>F</p>  <p>Light commercial applications, horizontal freezers, reach ins, vending machines. Up to 1/2 HP</p>
<p>NE</p>  <p>Frozen food islands, professional kitchen upright coolers and freezers, display cases, ultra low temperature freezers. 1/2 to 1 HP</p>	<p>NJ</p>  <p>Air curtain reach ins, ice machines, cold rooms, blast chillers. 1 to 2 HP.</p>	<p>NT</p>  <p>Professional kitchens upright coolers and freezers, air curtain reach ins, beer dispensers, ice machines, cold room, ultra low temperature freezers. 3/4 to 1 1/2 HP.</p>	

VARIABLE-SPEED COMPRESSOR

<p>VEM</p>  <p>Refrigerators and freezers, wine cooler, beverage coolers, chest freezer, medical cooler. Up to 1 HP</p>	<p>VNE</p>  <p>Reach Ins, medical and general professional kitchens. 1/2 to 1 HP.</p>	<p>VEG</p>  <p>Refrigerators and freezers, wine cooler, beverage coolers, chest freezer, medical cooler. Up to 1/3+ HP.</p>
<p>VES</p>  <p>Refrigerators and freezers, wine cooler, beverage coolers, chest freezer, medical cooler. Up to 1/3+ HP</p>	<p>FMX</p>  <p>Refrigerators and freezers, wine cooler, beverage coolers, chest freezer, medical cooler. Up to 1/4 HP</p>	<p>FMF</p>  <p>Upright reach ins, beer dispenser, frozen food islands, ultra low temperature freezers. Up to 1 HP.</p>

Nomenclature Brazil Line

EM

EM I S 70 H H R

COMPRESSOR FAMILY
EM

PRODUCT GENERATION
 - Standard Generation
 I - 1st Generation
 T - 2nd Generation
 U - 3rd Generation
 Y - 4th Generation
 Z - 5th Generation
 X - 6th Generation

MECHANICAL KIT
 S - Standard mechanical kit
 - Not standard

COMPRESSOR CAPACITY
 In Btu/h - 60Hz - ASHRAE
 Checkpoint divided by 10

REFRIGERANT CODE
 - Blends
 C - R600a
 H - R134a
 U - R290
 L - R1234yf

EFFICIENCY LEVEL
 N - Standard efficiency (LBP)
 J - Intermediate efficiency (LBP)
 E - Efficiency improved 1st generation (LBP)
 S - Efficiency improved 2nd generation (LBP)
 H - Standard efficiency (L/M/HBP)
 D - Standard efficiency (HBP)
 B - Standard efficiency (M/HBP)
 L - Efficiency improved 2nd generation (LBP)

ELECTRICAL COMPONENT	
P - PTC + run. cap. (optional)	
R - Relay	LST
C - PTC + start. cap. (mandatory)	
X - Relay + cap. part. (mandatory)	HST

F

F F U S 130 H A X

COMPRESSOR FAMILY
F/EG

ELECTRICAL SYSTEM
 F - Relay/Overload protector
 Start capacitor (optional)

PRODUCT GENERATION
 - Standard efficiency
 I - Improved efficiency 1st generation
 U - Improved efficiency 2nd generation (for commercial refrigeration)

STANDARD PLATFORM

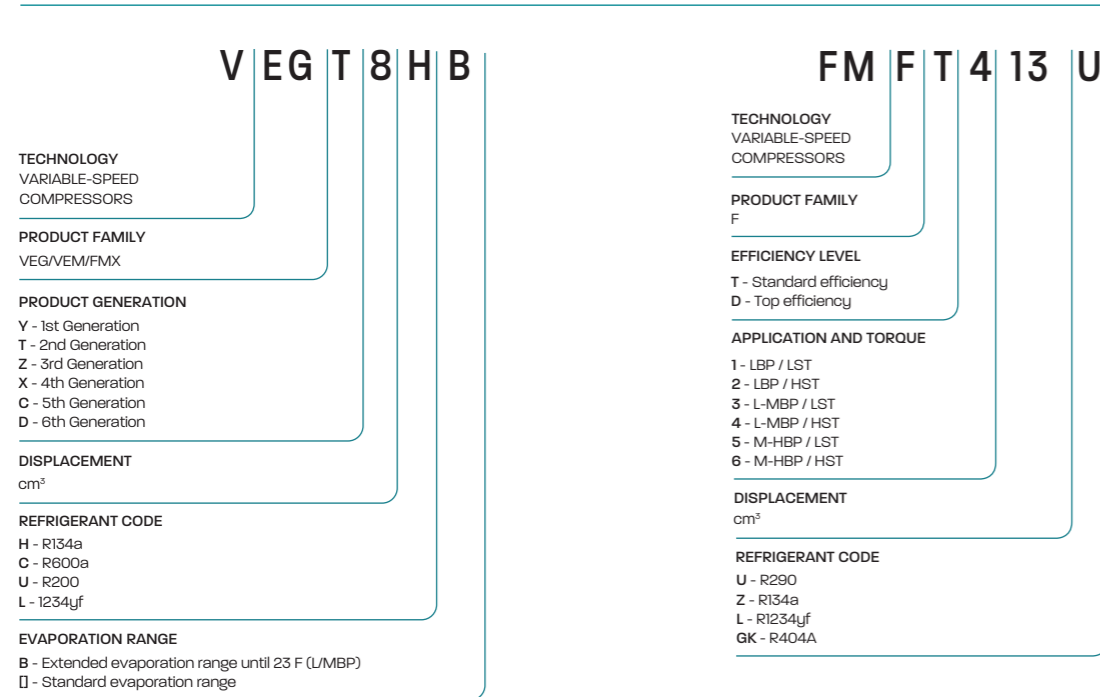
COMPRESSOR CAPACITY
 Approximate capacity in Btu/h - 60 Hz
 ASHRAE - Checkpoint divided by 10
 (for compressor FG, FFU and FFC)

REFRIGERANT CODE
 H - R134a
 U - R290
 L - R1234yf

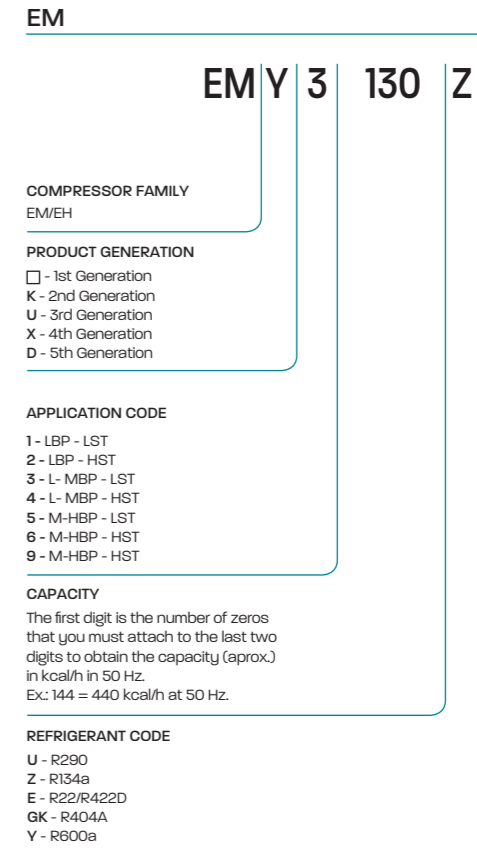
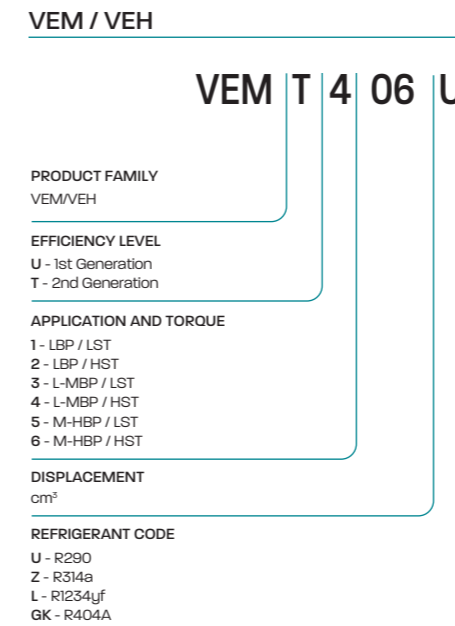
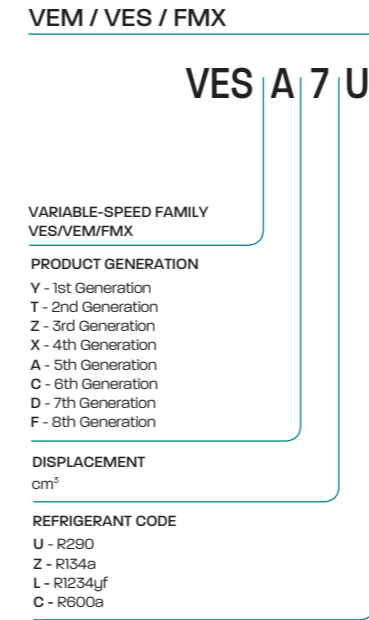
APPLICATION
 A - L/MBP
 B - L/M/HBP

STARTING TORQUE
 K - LST (Low starting torque)
 X - HST (High starting torque)

Nomenclature Brazil Line

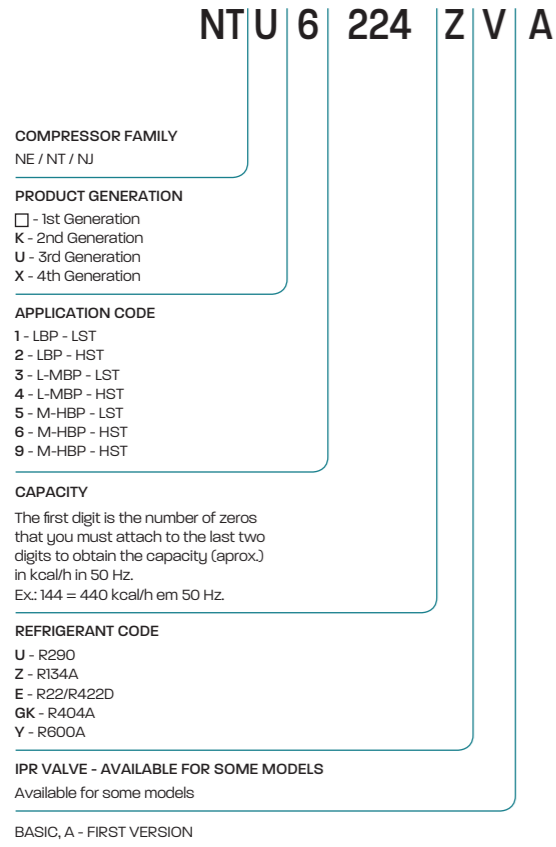


Nomenclature China Line

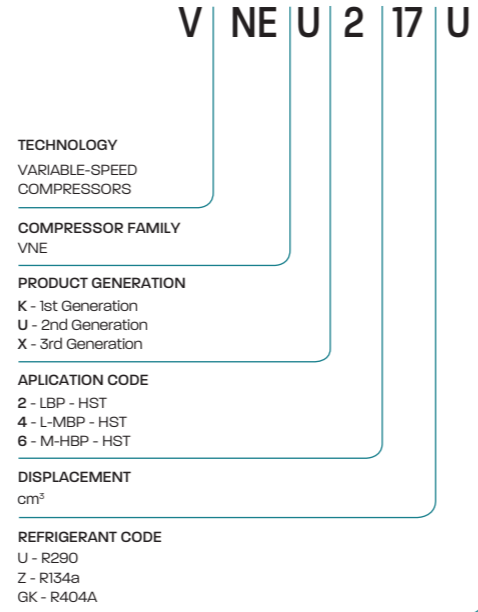


Nomenclature Europe Line

EM / NE / NT / NJ



Nomenclature Europe Variable-Speed Line



Technical Information

Applications

Application	Evaporating Temperature °C (°F)	Applications
LBP (Low Back Pressure)	Between -45/-35 (-49/-31) and -10 (14)	Household refrigerators, frozen food islands, ice cream freezers
MPB (Medium Back Pressure)	Between -15 (5) and 0 (32)	Displays cases, reach in coolers, bottle coolers
HBP (High Back Pressure)	Between 0 (32) and 15 (59)	Refrigerated wine houses, Water coolers, air dehumidifiers

Test Conditions

Test Conditions	Applications	Evaporation Temperature °C / °F	Condensing Temperature °C / °F	Gas Return Temperature °C / °F	Subcooling K/OR	Ambient Temperature °C / °F
ASHRAE	LBP	-23.3 / 10	54.4 / 130	32.2 / 90	22.2 / 40	32.2 / 90
	M/HBP	7.2 / 45	54.4 / 130	35 / 95	8.3 / 15	35 / 95
ARI	LBP	-23.3 / 10	48.9 / 120	4.4 / 40	0	35 / 95
	MBP	-6.7 / 20	48.9 / 120	4.4 / 40	0	35 / 95
	HBP	7.2 / 45	54.4 / 130	18.3 / 65	0	35 / 95
EN12900	LBP	-35	40	20	40 / 72	35
	MBP	-10	45	20	45 / 81	35
	HBP	5	50	20	5 / 90	35

Cooling Type

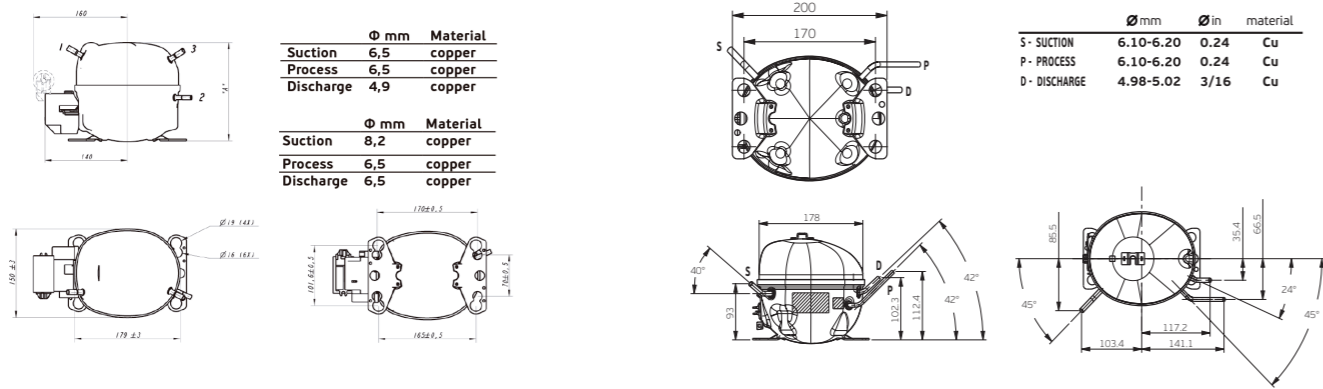
Static	Compressor approved for static cooling not requiring a fan motor on the condenser side.
Fan	Compressor approved for fan cooling requiring forced cooling with a fan motor on the condenser side.

Motor Torque

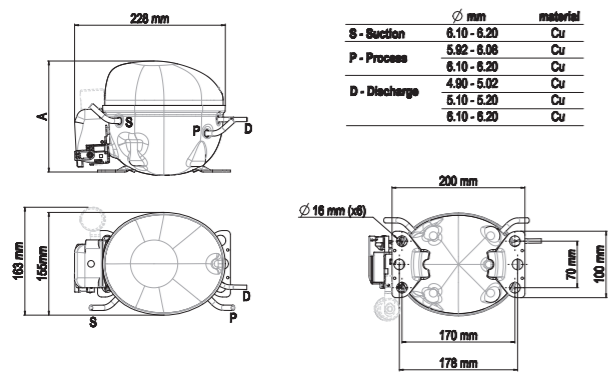
LST	LOW STARTING TORQUE Compressor with RSIR-RSCR-PSC electrical motor for systems with capillary tube and with equalized pressures at start up.
HST	HIGH STARTING TORQUE Compressor with CSIR-CSR or 3 phase electrical motor for systems with equalized or not equalized pressures at start up

External Views

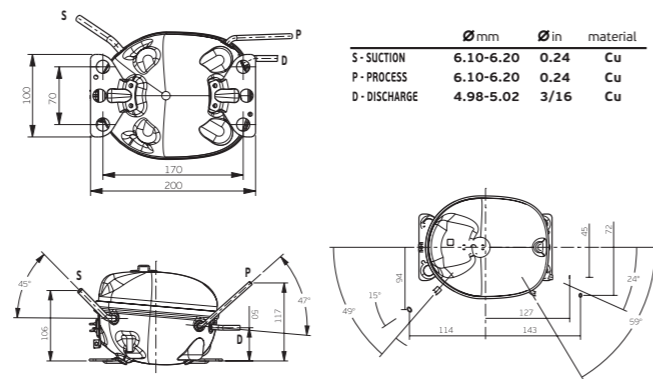
DWG 1 - EM / VEM SERIES UNIVERSAL BASE PLATE



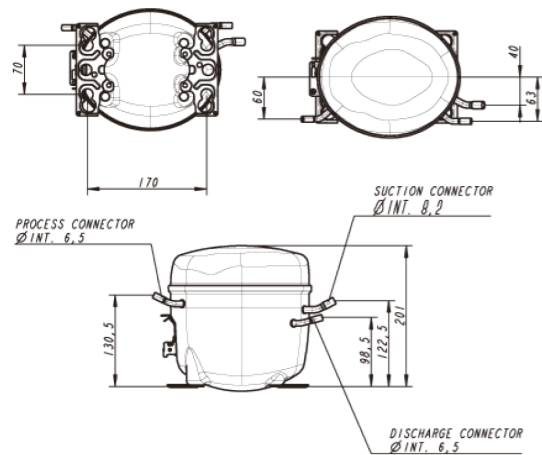
DWG 2 - EM SERIES EUROPEAN BASE PLATE



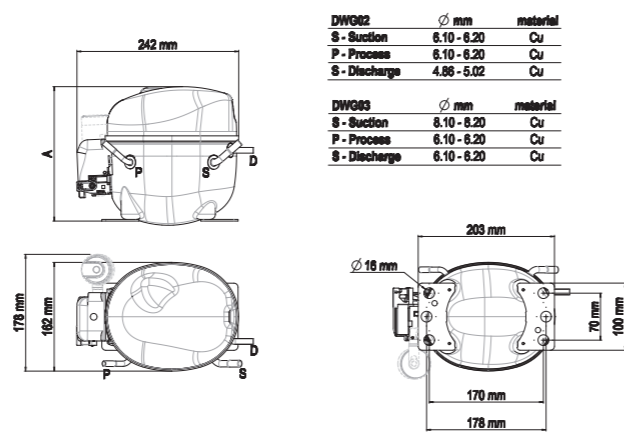
DWG 3 - VES SERIES



DWG 4 - EG / F / VEG SERIES UNIVERSAL BASE PLATE

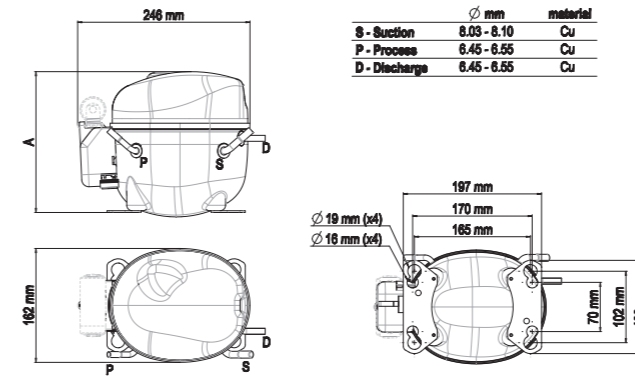


DWG 5 - NB / NE SERIES EUROPEAN BASE PLATE

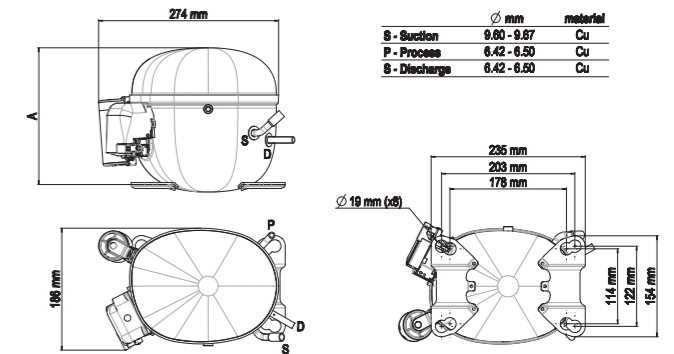


External Views

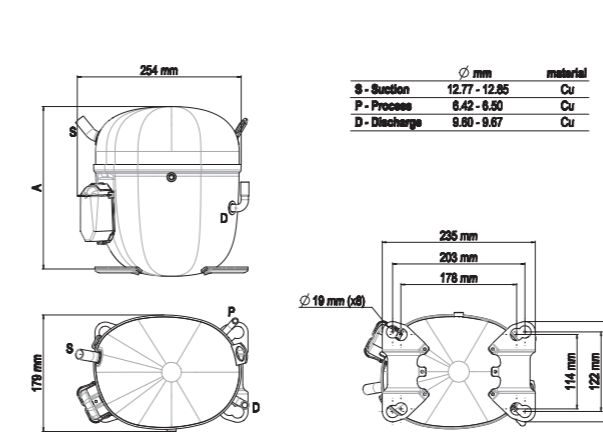
DWG 6 - NE / VNE SERIES UNIVERSAL BASE PLATE



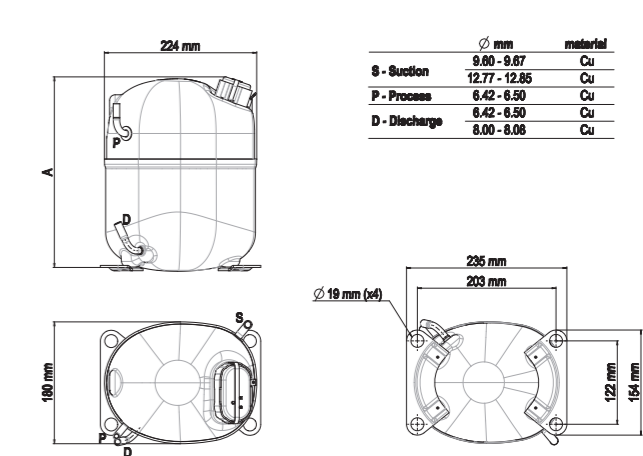
DWG 7 - NT SERIES UNIVERSAL BASE PLATE



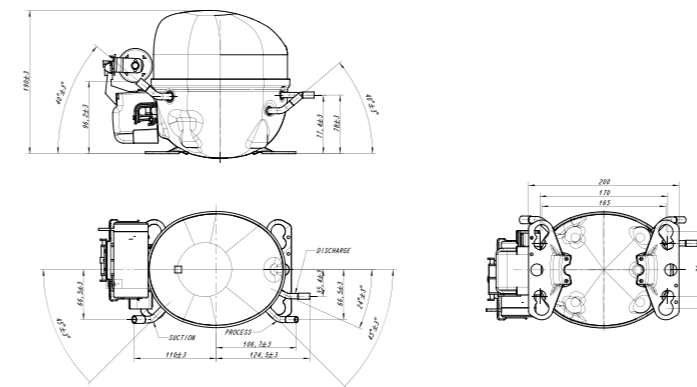
DWG 8 - NTU SERIES UNIVERSAL BASE PLATE



DWG 9 - NJ SERIES UNIVERSAL BASE PLATE



DWG 10 - EH SERIES



Technical Data

Compressors 100v 50/60 Hz

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R600a | 100 V 50/60 Hz | LBP

Model	Origin	Refrigerant	Displac.	Voltage / Frequency	Envelope	Torque	Motor
EMT30CDP	BR	R600a	4.50	100 V / 50-60 Hz	L/M/HBP	LST	RSIR
EMRS32CLC	CN	R600a	5.96	100 V / 50-60 Hz	LBP	LST	RSCR
EMT45CLP	CN	R600a	5.96	100 V / 50-60 Hz	LBP	LST	RSIR
EMX3109Y	BR	R600a	6.20	100-127 V 60 Hz / 100 V 50 Hz 1~	L/MBP	LST	RSCR/RSIR
EMB46CLC	CN	R600a	7.96	100 V / 50-60 Hz	LBP	LST	RSCR
EMYS46CLC	CN	R600a	7.96	100 V / 50-60 Hz	LBP	LST	RSCR
EMX3113Y	BR	R600a	9.04	100-127 V 60 Hz / 100 V 50 Hz 1~	L/MBP	LST	RSCR
EMB55CLC	CN	R600a	9.04	100 V / 50-60 Hz	LBP	LST	RSCR
EMX3115Y	BR	R600a	10.61	100-127 V 60 Hz / 100 V 50 Hz 1~	L/MBP	LST	RSCR
EGX80CLC	BR	R600a	11.14	100 V / 50-60 Hz	LBP	LST	RSCR
EMX3118Y	BR	R600a	12.21	100 V / 50-60 Hz	L/MBP	LST	RSCR

Model	Expansion Device	Check Point				Lubricant	
		Freq.	Test Condition	Capacity (W)	Efficiency (W/W)	Oil Charge (mL)	Type/Viscosity
EMT30CDP	Capillary Tube	50 Hz	ASHRAELBP32	74	1.25	180	ALQUILB / ISO22
		60 Hz		94	1.42		
EMRS32CLC	Capillary Tube	50 Hz	ASHRAELBP32	99	1.65	150	ALQUILB / ISO5
		60 Hz		115	1.71		
EMT45CLP	Capillary Tube	50 Hz	ASHRAELBP32	102	1.38	150	ALQUILB / ISO5
		60 Hz		121	1.51		
EMX3109Y	Capillary Tube	60 Hz	ASHRAELBP32	124	1.66	150	ALQUILB / ISO5
EMB46CLC	Capillary Tube	50 Hz	ASHRAELBP32	140	1.67	150	ALQUILB / ISO5
		60 Hz		160	1.70		
EMYS46CLC	Capillary Tube	50 Hz	ASHRAELBP32	139	1.57	150	ALQUILB / ISO5
		60 Hz		160	1.60		
EMX3113Y	Capillary Tube	60 Hz	ASHRAELBP32	185	1.74	150	ALQUILB / ISO5
EMB55CLC	Capillary Tube	50 Hz	ASHRAELBP32	159	1.66	150	ALQUILB / ISO5
		60 Hz		180	1.72		
EMX3115Y	Capillary Tube	60 Hz	ASHRAELBP32	213	1.68	150	ALQUILB / ISO5
EGX80CLC	Capillary Tube	50 Hz	ASHRAELBP32	195	1.77	280	ALQUILB / ISO5
		60 Hz		249	1.82		
EMX3118Y	Capillary Tube	50 Hz	ASHRAELBP32	212	1.66	150	ALQUILB / ISO5
		60 Hz		242	1.64		

R600a | 100 V 50/60 Hz | M/HBP

Model	Origin	Refrigerant	Displac.	Voltage / Frequency	Envelope	Torque	Motor
EMT30CDP	BR	R600a	4.50	100V/50-60Hz	L/M/HBP	LST	RSIR
EMT45CDP	BR	R600a	6.78	100V/50-60Hz	HBP	LST	RSIR

Model	Expansion Device	Check Point				Lubricant	
		Freq.	Test Condition	Capacity (W)	Efficiency (W/W)	Oil Charge (mL)	Type/Viscosity
EMT30CDP	Capillary Tube	50 Hz	ASHRAELBP32	74	1.25	180	ALQUILB / ISO22
		60 Hz		94	1.42		
EMT45CDP	Capillary Tube	50 Hz	CECOMAFHBP	419	2.59	180	ALQUILB / ISO22
		60 Hz		493	2.70		

R1234yf | 100 V 50/60 Hz | LBP

Model	Origin	Refrigerant	Displac.	Voltage / Frequency	Envelope	Torque	Motor
EMT1110L	BR	R1234yf	3.77	100 V / 50-60 Hz	LBP	LST	RSIR
FGS80LAS	BR	R1234yf	7.15	100 V / 50-60 Hz	L/MBP	LST	RSCR/CSCR
EHU3125L	CN	R1234yf	9.04	100 V / 50-60 Hz	L/MBP	LST	RSIR
FGS125LAS	BR	R1234yf	11.14	100 V / 50-60 Hz	L/MBP	LST	CSCR

Model	Expansion Device	Check Point				Lubricant	
		Freq.	Test Condition	Capacity (W)	Efficiency (W/W)	Oil Charge (mL)	Type/Viscosity
EMT1110L	Capillary Tube	50 Hz	ASHRAELBP32	113	1.31	160	ESTER / ISO10
		60 Hz		141	1.42		
FGS80LAS	Capillary Tube	50 Hz	ASHRAELBP32	223	1.42	280	ESTER / ISO22
		60 Hz		258	1.46		
EHU3125L	Capillary Tube	50 Hz	ASHRAELBP32	286	1.40	180	ESTER / ISO22
		60 Hz		333	1.55		
FGS125LAS	Capillary Tube	50 Hz	ASHRAELBP32	352	1.37	280	ESTER / ISO22
		60 Hz		406	1.47		

R1234yf | 100 V 50/60 Hz | M/HBP

Model	Origin	Refrigerant	Displac.	Voltage / Frequency	Envelope	Torque	Motor
EM20LHR	BR	R1234yf	2.27	100V/50-60Hz	HBP	LST	RSIR
EMT6170L	CN	R1234yf	7.96	100V/50-60Hz	HBP	HST	CSCR

R134a | 100 V 50/60 Hz | LBP

Model	Origin	Refrigerant	Displac.	Voltage / Frequency	Envelope	Torque	Motor
EMU45HEP	BR	R134a	3.77	100 V / 50-60 Hz	LBP	LST	RSIR
EMI60HEP	BR	R134a	4.99	100 V / 50-60 Hz	LBP	LST	RSIR
FGS70HA	BR	R134a	6.36	100 V / 50-60 Hz	LBP	LST	RSCR
FGS80HAS	BR	R134a	7.15	100 V / 50-60 Hz	LBP	LST	RSCR/CSCR
FGS100HAS	BR	R134a	9.04	100 V / 50-60 Hz	L/MBP	LST	RSCR/CSCR
FGS125HAS	BR	R134a	11.14	100 V / 50-60 Hz	L/MBP	LST	CSCR
NE2130Z	SK	R134a	12.11	100 V / 50-60 Hz	LBP	HST	CSIR
NEU3130Z	SK	R134a	12.11	100 V / 50-60 Hz	L/MBP	LST	CSCR
NEU3140Z	SK	R134a	16.80	100 V / 50-60 Hz	L/MBP	LST	CSCR
NEU3145Z	SK	R134a	18.70	100 V / 50-60 Hz	L/MBP	LST	CSCR

R134a | 100 V 50/60 Hz | M/HBP

Model	Origin	Refrigerant	Displac.	Voltage / Frequency	Envelope	Torque	Motor
EM20HHR	BR	R134a	2.27	100V/50-60Hz	M/HBP	LST	RSIR-CSIR
EMT45HBP	CN	R134a	4.15	100V/50-60Hz	M/HBP	LST	RSIR
EMT6170Z	CN	R134a	7.96	100V/50-60Hz	HBP	HST	CSCR
NEK6170Z	SK	R134a	8.39	100V/50-60Hz	HBP	HST	CSIR

Model	Expansion Device	Check Point				Lubricant	
		Freq.	Test Condition	Capacity (W)	Efficiency (W/W)	Oil Charge (mL)	Type/Viscosity
EM20LHR	Capillary Tube	50 Hz	ASHRAEHBP32	262	2.77	160	ESTER / ISO22
		60 Hz		308	2.79		
EMT6170L	Capillary Tube or Expansion Valve	50 Hz	ASHRAEHBP46	838	2.69	180	ESTER / ISO22
		60 Hz		975	2.55		

Model	Expansion Device	Check Point				Lubricant	
		Freq.	Test Condition	Capacity (W)	Efficiency (W/W)	Oil Charge (mL)	Type/Viscosity
EMU45HEP	Capillary Tube	50 Hz	ASHRAELBP32	103	1.23	160	ESTER / ISO10
		60 Hz		128	1.32		
EMI60HEP	Capillary Tube	50 Hz	ASHRAELBP32	133	1.20	160	ESTER / ISO22
		60 Hz		167	1.33		
FGS70HA	Capillary Tube	50 Hz	ASHRAELBP32	174	1.49	280	ESTER / ISO10
		60 Hz		203	1.53		
FGS80HAS	Capillary Tube	50 Hz	ASHRAELBP32	210	1.42	280	ESTER / ISO22
		60 Hz		244	1.47		
FGS100HAS	Capillary Tube	50 Hz	ASHRAELBP32	261	1.41	280	ESTER / ISO22
		60 Hz		316	1.52		
FGS125HAS	Capillary Tube	50 Hz	ASHRAELBP32	315	1.28	280	ESTER / ISO22
		60 Hz		368	1.44		
NE2130Z	Capillary Tube or Expansion Valve	50 Hz	ASHRAELBP32	323	1.20	350	ESTER / ISO22
		60 Hz		367	1.19		
NEU3130Z	Capillary Tube	50 Hz	ASHRAELBP32	356	1.39	350	ESTER / ISO22
		60 Hz		417	1.45		
NEU3140Z	Capillary Tube	50 Hz	ASHRAELBP32	474	1.39	350	ESTER / ISO22
		60 Hz		549.6	1.46		
NEU3145Z	Capillary Tube	50 Hz	ASHRAELBP32	489	1.32	350	ESTER / ISO22
		60 Hz		556	1.38		

Model	Expansion Device	Check Point				Lubricant	
		Freq.	Test Condition	Capacity (W)	Efficiency (W/W)	Oil Charge (mL)	Type/Viscosity
EM20HHR	Capillary Tube	60 Hz	ASHRAEHBP32	299	2.53	160	ESTER / ISO22
			ASHRAELBP32	59	0.89		
EMT45HBP	Capillary Tube or Expansion Valve	50 Hz	ASHRAELBP32	118	1.33	180	ESTER / ISO22
		60 Hz		135	1.40		
EMT6170Z	Capillary Tube or Expansion Valve	50 Hz	ASHRAEHBP46	838	2.69	180	ESTER / ISO22
		60 Hz		975	2.55		
NEK6170Z	Capillary Tube or Expansion Valve	50 Hz	ASHRAEHBP46	817	2.25	350	ESTER / ISO22
		60 Hz		948	2.22		

R404A | 100 V 50/60 Hz | LBP

Model	Origin	Refrigerant	Displac.	Voltage / Frequency	Envelope	Torque	Motor
NEK2125GK	SK	R404A	6.20	100 V / 50-60 Hz	LBP	HST	CSCR
NEK2134GK	SK	R404A	8.77	100 V / 50-60 Hz	LBP	HST	CSCR
NEU2155GK	SK	R404A	12.11	100 V / 50-60 Hz	LBP	HST	CSCR
NT2178GK	SK	R404A	17.39	100 V / 50-60 Hz	LBP	HST	CSCR

R404A | 100 V 50/60 Hz | M/HBP

Model	Origin	Refrigerant	Displac.	Voltage / Frequency	Envelope	Torque	Motor
NEK6210GK	SK	R404A	8.77	100V/50-60Hz	MBP	HST	CSIR

Model	Expansion Device	Check Point				Lubricant	
		Freq.	Test Condition	Capacity (W)	Efficiency (W/W)	Oil Charge (mL)	Type/Viscosity
NEK2125GK	Capillary Tube or Expansion Valve	50 Hz	ASHRAELBP32	338	1.24	350	ESTER / ISO22
		60 Hz		405	1.36		
NEK2134GK	Capillary Tube or Expansion Valve	50 Hz	ASHRAELBP32	448	1.19	350	ESTER / ISO22
		60 Hz		529	1.24		
NEU2155GK	Capillary Tube or Expansion Valve	50 Hz	ASHRAELBP32	649	1.40	350	ESTER / ISO22
		60 Hz		766	1.42		
NT2178GK	Capillary Tube or Expansion Valve	50 Hz	ASHRAELBP32	811	1.29	450	ESTER / ISO22
		60 Hz		1013	1.36		

Model	Expansion Device	Check Point				Lubricant	
		Freq.	Test Condition	Capacity (W)	Efficiency (W/W)	Oil Charge (mL)	Type/Viscosity
NEK6210GK	Capillary Tube or Expansion Valve	50 Hz	ASHRAEHP46	1340	1.98	350	ESTER / ISO22
		60 Hz		1583	2.07		

Technical Data

Compressors Three-Phase

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R290 | 3PHASE

Model	Origin	Refrigerant	Displac.	Voltage / Frequency	Envelope	Torque	Motor
NJX2215US	SK	R290	37.88	400V 50Hz / 440V 60Hz	LBP	HST	3 PHASE
NJX6244US	SK	R290	37.88	400V 50Hz / 440V 60Hz	MBP	HST	3 PHASE

R134a | 3PHASE

Model	Origin	Refrigerant	Displac.	Voltage / Frequency	Envelope	Torque	Motor
NEU3130ZX	SK	R-134a	12.11	200V 50-60Hz 3~	L/MBP	LST	3 PHASE
NEU3140ZX	SK	R-134a	16.80	200 V 50-60Hz 3~	L/MBP	LST	3 PHASE
NEU3145ZX	SK	R-134a	18.70	200 V 50-60Hz 3~	L/MBP	LST	3 PHASE
NJ6220ZX	SK	R134a	26.11	380-420 V 50 Hz / 440-480 V 60 Hz 3 ~	HBP	HST	3 PHASE
NJ6226ZX	SK	R134a	34.38	380-420V 50Hz / 440-480V 60Hz 3 ~	HBP	HST	3 PHASE
NJX6232ZX	SK	R134a	37.88	380-420 V 50 Hz / 440-480 V 60 Hz 3 ~	HBP	HST	3 PHASE

R404A | 3PHASE

Model	Origin	Refrigerant	Displac.	Voltage / Frequency	Envelope	Torque	Motor
NT2168GS	SK	R404A	14,50	200V/50-60Hz 3~	LBP	HST	3 PHASE
NT2192GS	SK	R404A	22,37	200V/50-60Hz 3~	LBP	HST	3 PHASE
NT2212GS	SK	R404A	27,80	200V/50-60Hz 3~	LBP	HST	3 PHASE
NJX2219GS	SK	R404A	37,88	400V 50Hz / 440V 60Hz	LBP	HST	3 PHASE
NJ9226GS	SK	R404A	21,71	380-420 V 50 Hz / 440-480 V 60 Hz 3 ~	MBP	HST	3 PHASE
NTU6232GSV	SK	R404A	20,44	200-230 V 60 Hz 3 ~	MBP	HST	3 PHASE
NTU6234GSV	SK	R404A	23,74	200-230 V 60 Hz 3 ~	MBP	HST	3 PHASE
NTU6238GSV	SK	R404A	26,21	200-230 V 60 Hz 3 ~	MBP	HST	3 PHASE
NTU6240GSV	SK	R404A	27,80	200-230 V 60 Hz 3 ~	MBP	HST	3 PHASE
NJX6250GS	SK	R404A	37,88	400V 50Hz / 440V 60Hz	MBP	HST	3 PHASE

Model	Expansion Device	Check Point				Lubricant	
		Freq.	Test Condition	Capacity (W)	Efficiency (W/W)	Oil Charge (mL)	Type/Viscosity
NJX2215US	Capillary Tube or Expansion Valve	50 Hz	ASHRAELBP32	1723	1.53	750	ESTER / ISO22
		60 Hz		2011	1.50		
NJX6244US	Capillary Tube or Expansion Valve	50 Hz	ASHRAEHP46	5205	2.70	750	ESTER / ISO22
		60 Hz		5970	2.50		

Model	Expansion Device	Check Point				Lubricant	
		Freq.	Test Condition	Capacity (W)	Efficiency (W/W)	Oil Charge (mL)	Type/Viscosity
NEU3130ZX	Capillary Tube	50 Hz	ASHRAELBP32	349	1.39	350	ESTER / ISO22
		60 Hz		412	1.46		
NEU3140ZX	Capillary Tube	50 Hz	ASHRAELBP32	462	1.38	350	ESTER / ISO22
		60 Hz		537	1.42		
NEU3145ZX	Capillary Tube	50 Hz	ASHRAELBP32	488	1.38	350	ESTER / ISO22
		60 Hz		556	1.38		
NJ6220ZX	Capillary Tube or Expansion Valve	50 Hz	ASHRAEHP46	2547	2.91	750	ESTER / ISO22
		60 Hz		2980	2.92		
NJ6226ZX	Capillary Tube or Expansion Valve	50 Hz	ASHRAEHP46	2976	2.50	750	ESTER / ISO22
		60 Hz		3482	2.51		
NJX6232ZX	Capillary Tube or Expansion Valve	50 Hz	ASHRAEHP46	3757	2.59	750	ESTER / ISO22
		60 Hz		4444	2.43		

Model	Expansion Device	Check Point				Lubricant	
		Freq.	Test Condition	Capacity (W)	Efficiency (W/W)	Oil Charge (mL)	Type/Viscosity
NT2168GS	Capillary Tube or Expansion Valve	60 Hz	ASHRAELBP32	786	1,37	650	ESTER / ISO22
NT2192GS	Capillary Tube or Expansion Valve	60 Hz	ASHRAELBP32	1220	1,29	650	ESTER / ISO22
NT2212GS	Capillary Tube or Expansion Valve	60 Hz	ASHRAELBP32	1571	1,31	650	ESTER / ISO22
NJX2219GS	Capillary Tube or Expansion Valve	50 Hz	ASHRAELBP32	2202	1,42	750	ESTER / ISO22
		60 Hz		2534	1,39		
NJ9226GS	Capillary Tube or Expansion Valve	50 Hz	ASHRAEHP46	3249	2,50	750	ESTER / ISO22
NTU6232GSV	Capillary Tube or Expansion Valve	60 Hz	ASHRAEHP46	3982	2,80	650	ESTER / ISO22
NTU6234GSV	Capillary Tube or Expansion Valve	60 Hz	ASHRAEHP46	4574	2,67	650	ESTER / ISO22
NTU6238GSV	Capillary Tube or Expansion Valve	60 Hz	ASHRAEHP46	4877	2,49	650	ESTER / ISO22
NTU6240GSV	Capillary Tube or Expansion Valve	60 Hz	ASHRAEHP46	5292	2,54	650	ESTER / ISO22
NJX6250GS	Capillary Tube or Expansion Valve	50 Hz	ASHRAEHP46	6025	2,36	750	ESTER / ISO22
		60 Hz		6971	2,17		

Technical Data

Variable-Speed Compressors

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Variable-Speed Compressors

Embraco variable-speed compressors are a solution for residential and commercial applications which demand fast cooling, low energy consumption, operate with a low starting voltage and with a wide operating range, low noise and vibration levels. The variable-speed compressor associated with an inverter allow the compressor to run in different RPM, delivering the cooling capacity needed according to the thermal load.

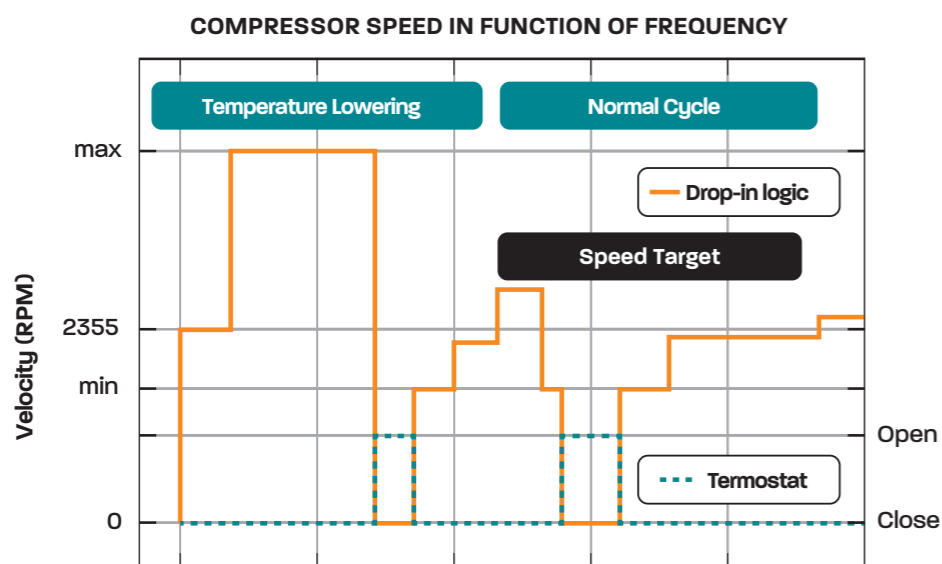
Control Modes

DROP-IN

Drop-In can be used with all kinds of controllers, where single thermostat contact is used to set the compressor running or not. Drop-In mode allows the use of Variable Speed Compressors in any refrigeration system without the need of a speed control signal through serial or frequency communication. The compressor speed will be adjusted automatically by the Inverter, in accordance with the change in thermal load.

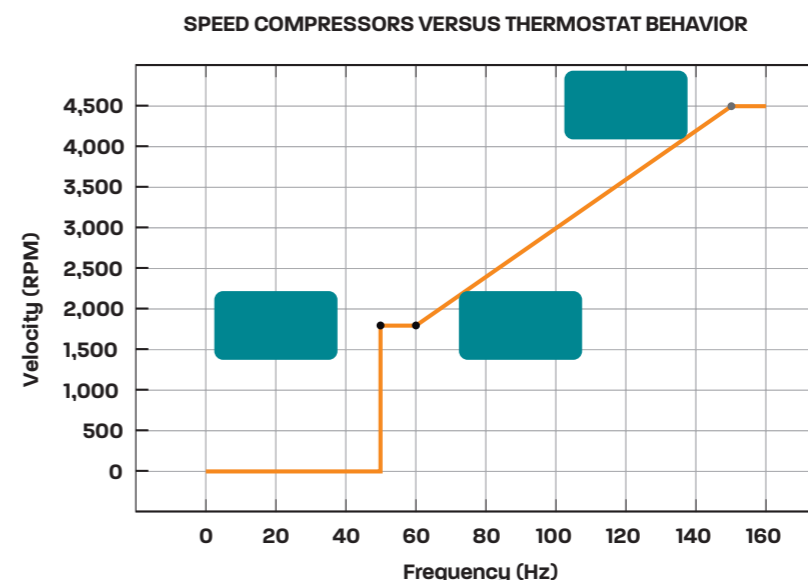
SMART DROP-IN

The Smart-Drop-In was designed with focus on cooling capacity, but always considering good system efficiency. This solution provides a customization tool that allows the routine to be parameterized and adjusted for each refrigeration system. The logic is divided in four main parts: Pull-down, Stability Routine, Heavy Duty Routine and Defrost Routine. The Stability, Heavy Duty and Defrost Routine begin to run in parallel after Pull-down is completed.



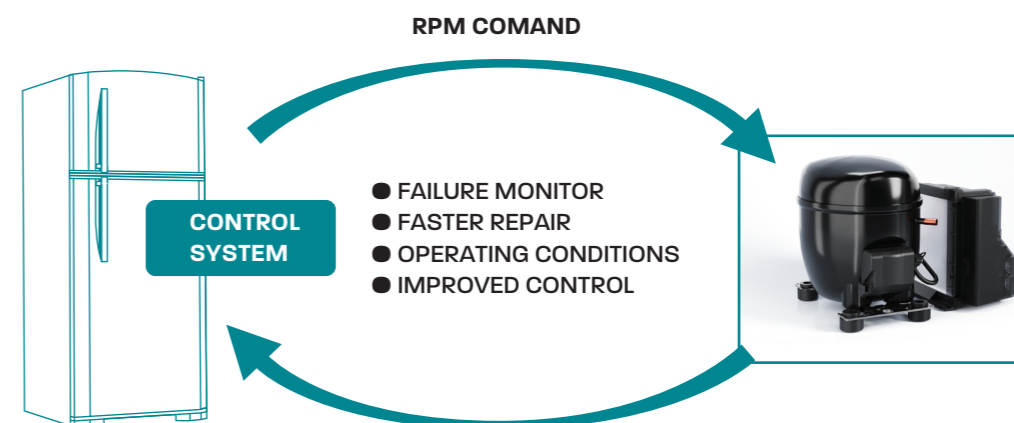
FREQUENCY

In this communication mode, the compressor's speed is controlled by a frequency signal sent to the inverter, usually generated by an electronic controller. This frequency signal is a digital wave that varies between 53 and 150 Hz. The compressor is then driven by this signal sent to the inverter



SERIAL

This option is used associated with an electronic thermostat, in which the inverter uses a serial communication protocol, building a communication bridge between the inverter and the controller. Based on Embraco protocol it is possible to define the compressor speed and check other parameters such as compressor RPM and failure state. This response from the inverter can be used to help diagnose system failure and/or fix it in less time than usual.



Variable-Speed Compressors | R290 | L/MBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
VEMT403U	BR	R290	3	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST/HST	BPM
VEMT404U	BR	R290	4,25	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST/HST	BPM
VESA5U	CN	R290	5,19	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMT406U	CN	R290	6,36	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST/HST	BPM
FMFT406U	BR	R290	6,44	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	HST	BPM
VESA7U	CN	R290	7,15	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VEGT8U	BR	R290	7,95	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMFT408U	BR	R290	7,95	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	HST	BPM
VEHT409U	CN	R290	9,04	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST/HST	BPM
FMFT411U	BR	R290	11,14	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST/HST	BPM

Variable speed compressors for Japan market can be delivered with different electricals set up. Nidec GA can deliver the set with 200V 50-60Hz ~3 phase input, 100V 50-60Hz single phase input or DC input, please, contact technical support for more information.

Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (ml)	Type / Viscosity	Kg
Capillary Tube / Expansion Valve	ASHRAELBP32	1200	60,7	1,76	220	ALQUILB / ISO22 ESTER / ISO22	7,2
		1600	78,6	1,78			
		2000	99	1,81			
		3000	144,4	1,79			
		3600	174,1	1,77			
Capillary Tube or Expansion Valve	ASHRAELBP32	1200	106,4	1,83	220	ALQUILB / ISO22	7,2
		1600	131,3	1,90			
		2000	161,5	1,90			
		3000	236	1,88			
		3600	275,1	1,85			
Capillary tube	ASHRAELBP32	1600	121,3	1,50	200	ESTER / ISO10	5,8
		2000	155,9	1,59			
		3000	244,1	1,69			
		4000	328	1,72			
Capillary Tube or Expansion Valve	ASHRAELBP32	1600	151	1,54	210	ALQUILB / ISO22	6,5
		2000	195	1,64			
		3000	303	1,72			
		3600	364	1,72			
Capillary Tube or Expansion Valve	ASHRAELBP32	1800	190	1,81	430	ESTER / ISO22	10,3
		2500	248	1,79			
		3000	325	1,84			
		3600	387	1,81			
Capillary tube	ASHRAELBP32	1600	182	1,62	198	ESTER / ISO22	6,5
		2000	233	1,69			
		3000	363	1,74			
Capillary Tube	ASHRAELBP32	1800	239,4	1,73	450	ESTER / ISO22	10,3
		2000	272,5	1,75			
		3000	426	1,78			
		3600	505,2	1,76			
Capillary tube or Expansion Valve	ASHRAELBP32	1800	257	1,86	430	ESTER / ISO22	10,3
		2400	346,1	1,87			
		3000	441	1,86			
		3600	516,9	1,82			
Capillary Tube or Expansion Valve	ASHRAELBP32	1600	239	1,76	250	ALQUILB / ISO22	7,4
		2000	303	1,81			
		3000	464	1,84			
		3600	545	1,78			
Capillary tube or Expansion Valve	ASHRAELBP32	1800	356	1,91	430	ESTER / ISO22	10,9
		2400	472,1	1,92			
		3000	591,9	1,90			
		3600	684,8	1,86			
		4500	863,8	1,80			

Variable-Speed Compressors | R290 | L/MBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
FMFT213U	BR	R290	12,92	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	HST	BPM
FMFT413U	BR	R290	12,92	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	HST	BPM
FMFD413UE	BR	R290	10,85	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST/HST	BPM
VEHU413U	CN	R290	12,74	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST/HST	BPM
FMFT415U	BR	R290	14,77	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	HST	BPM
VNEU217U	SK	R290	16,8	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	HST	BPM
VNEX219U	SK	R290	18,7	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	HST	BPM
VNEX419U	SK	R290	18,7	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	HST	BPM
VNEX412U	SK	R290	21	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	HST	BPM

Variable speed compressors for Japan market can be delivered with different electricals set up. Nidec GA can deliver the set with 200V 50-60Hz ~3 phase input, 100V 50-60Hz single phase input or DC input, please, contact technical support for more information.

Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (ml)	Type / Viscosity	Kg
Capillary tube or Expansion Valve	ASHRAELBP32	1800	414	1,85	430	ESTER / ISO22	10,87
		2400	414	1,85			
		3000	693	1,87			
		3600	795	1,82			
		4500	952	1,77			
Capillary tube or Expansion Valve	ASHRAELBP32	1800	403	1,76	430	ESTER / ISO22	10,9
		2500	531	1,78			
		3000	682	1,80			
		3600	777	1,76			
		4500	998	1,74			
Capillary tube or Expansion Valve	ASHRAELBP32	1600	331	1,95	430	ESTER / ISO10	10,9
		2400	490	1,99			
		3000	603	1,98			
		3600	716	1,92			
		5000	958	1,82			
Capillary Tube or Expansion Valve	ASHRAELBP32	1600	345	1,63	250	ALQUILB / ISO22	7,3
		2000	435	1,68			
		3000	658	1,72			
		3600	767	1,68			
		4500	937	1,62			
Capillary tube or Expansion Valve	ASHRAELBP32	1600	462,1	1,69	430	ESTER / ISO22	10,9
		3000	805,8	1,75			
		5000	1173	1,59			
		2000	535	1,47			
Capillary Tube or Expansion Valve	ASHRAELBP32	2400	656,4	1,51	500	ESTER / ISO22	11,6
		3000	818	1,52			
		3600	960,8	1,48			
		4500	1144	1,47			
		2200	705	1,58			
Capillary Tube or Expansion Valve	ASHRAELBP32	3000	979	1,55	400	POE22 / ISO22	12
		5000	1522	1,81			
		2200	705	1,84			
Capillary Tube or Expansion Valve	ASHRAELBP32	3000	979	1,81	400	POE22 / ISO22	12
		5000	1522	1,64			
		2200	809	1,81			
Capillary Tube or Expansion Valve	ASHRAELBP32	3000	1057	1,79	400	POE22 / ISO22	12
		5000	1667	1,66			
		2200	809	1,81			

Variable-Speed Compressors | R290 | M/HBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
VNEX619U	SK	R290	18,7	115-127 V 50-60 Hz 220-240 V 50-60 Hz	MBP	HST	BPM
VNEX621U	SK	R290	21	115-127 V 50-60 Hz 220-240 V 50-60 Hz	MBP	HST	BPM

Variable-Speed Compressors | R600a | L/MBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
FMXD4C	CN	R600a	3,97	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMXA4C	CN	R600a	3,97	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMSA4C	BR	R600a	2,83	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VEMY4C	BR	R600a	3,97	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMC5C	CN	R600a	5,19	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMZ5C	BR	R600a	5,19	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VESD5C	CN	R600a	5,19	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VEF5C	CN	R600a	5,19	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VESA5C	CN	R600a	5,19	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VEMX5C	BR	R600a	5,19	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM

Variable speed compressors for Japan market can be delivered with different electricals set up. Nidec GA can deliver the set with 200V 50-60Hz ~3 phase input, 100V 50-60Hz single phase input or DC input, please, contact technical support for more information.

Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (ml)	Type / Viscosity	Kg
Capillary Tube or Expansion Valve	ASHRAEHBP46	2200	1983	3,16	400	POE22/ ISO22	12
		3000	2742	3,09			
		5000	4145	2,61			
Capillary Tube or Expansion Valve	ASHRAEHBP46	2200	2289	3,12	400	POE22/ ISO22	12
		3000	3095	3,00			
		5000	4509	2,52			

Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (ml)	Type / Viscosity	Kg
Capillary Tube	ASHRAELBP32	1300	21,7	1,58	175	ALQUILB / ISO5	4,9
		2000	36	1,73			
		3000	49	1,64			
		4000	72	1,66			
Capillary Tube	ASHRAELBP32	1300	21,7	1,47	175	ALQUILB / ISO5	4,9
		2000	36	1,65			
		3000	54	1,64			
		4000	76	1,64			
Capillary Tube	ASHRAELBP32	2800	43,4	1,69	140	ALQUILB / ISO5	3,6
		4000	61	1,63			
		6300	86,1	1,47			
Capillary Tube	ASHRAELBP32	1600	31,6	1,46	220	ALQUILB / ISO5	7,6
		2000	41	1,53			
		3000	63	1,48			
		4500	104	1,52			
Capillary Tube	ASHRAELBP32	1200	30,5	1,56	210	ALQUILB / ISO5	7,8
		1600	42,2	1,74			
		2000	53	1,80			
		3000	70	1,63			
Capillary Tube	ASHRAELBP32	1600	46,9	1,72	220	ALQUILB / ISO5	7,6
		3000	87	1,74			
		4500	126	1,73			
Capillary Tube	ASHRAELBP32	1300	34	1,77	190	ALQUILB / ISO5	6,5
		1600	42,2	1,79			
		2000	55	1,84			
		3000	84	1,81			
Capillary Tube	ASHRAELBP32	1300	33,1	1,76	205	ALQUILB / ISO5	6,3
		2000	52	1,82			
		4500	119	1,74			
Capillary Tube	ASHRAELBP32	1300	32,8	1,69	200	ALQUILB / ISO5	6,0
		1600	41,6	1,77			
		2000	53	1,79			
		3000	80	1,76			
Capillary Tube	ASHRAELBP32	1200	31,1	1,5	220	ALQUILB / ISO5	7,6
		1600	43,7	1,62			
		2000	57	1,71			
		3000	88,5	1,75			
Capillary Tube	ASHRAELBP32	4500	135	1,69			

Variable-Speed Compressors | R600a | L/MBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
FMXD6C	CN	R600a	6,23	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMXC6C	CN	R600a	6,23	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMXA6C	CN	R600a	6,23	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VESH7C	CN	R600a	7,23	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VESD7C	CN	R600a	7,23	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VESA7C	CN	R600a	7,23	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMC7C	CN	R600a	7,23	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMT7C	CN	R600a	7,23	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
FMSY7C	BR	R600a	5,19	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMSU7C	BR	R600a	5,19	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMXD9C	CN	R600a	8,74	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM

Variable speed compressors for Japan market can be delivered with different electricals set up. Nidec GA can deliver the set with 200V 50-60Hz ~3 phase input. 100V 50-60Hz single phase input or DC input, please, contact technical support for more information.

Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (ml)	Type / Viscosity	Kg
Capillary Tube	ASHRAELBP32	1300	41	1,81	175	ALQUILB / ISO5	4,9
		2000	67	1,91			
		3000	102	1,89			
		4000	126	1,79			
Capillary Tube	ASHRAELBP32	1300	39,9	1,69	175	ALQUILB / ISO5	4,8
		1600	50,7	1,77			
		2000	65	1,82			
		3000	98	1,78			
Capillary Tube	ASHRAELBP32	1300	39,9	1,67	175	ALQUILB / ISO5	4,9
		2000	65	1,79			
		3000	98	1,80			
		4000	121	1,70			
Capillary Tube	ASHRAELBP32	950	38,1	1,97	205	ALQUILB / ISO5	6,6
		1300	53	2,09			
		1600	65,9	2,09			
		2000	83	2,12			
		3000	124	2,05			
		4000	164	1,97			
Capillary Tube	ASHRAELBP32	1300	48,6	1,52	190	ALQUILB / ISO5	6,8
		1600	62,7	1,92			
		2000	79	1,94			
		3000	120	1,90			
Capillary Tube	ASHRAELBP32	1300	47,5	1,65	190	ALQUILB / ISO5	6,5
		1600	60,4	1,75			
		2000	77	1,82			
		3000	119	1,83			
Capillary Tube	ASHRAELBP32	1200	46	1,78	210	ALQUILB / ISO5	7,8
		1600	62,7	1,87			
		2000	80	1,88			
		3000	116	1,87			
Capillary Tube	ASHRAELBP32	1600	68	1,66	210	ALQUILB / ISO5	7,8
		2000	78,5	1,70			
		3000	116,6	1,74			
		4500	172,6	1,70			
Capillary Tube	ASHRAELBP32	1800	52,2	1,69	140	ALQUILB / ISO5	3,6
		2800	80	1,74			
		4000	109	1,72			
		5000	136,3	1,70			
		6300	170	1,65			
Capillary Tube	ASHRAELBP32	1800	50,9	1,58	140	ALQUILB / ISO5	3,5
		2800	78,6	1,63			
		4000	111	1,60			
Capillary Tube	ASHRAELBP32	1300	62,1	1,84	175	ALQUILB / ISO5	4,9
		2000	99	1,90			
		3000	152	1,89			
		4000	187	1,79			

Variable-Speed Compressors | R600a | L/MBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
FMXC9C	CN	R600a	8,74	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMXA9C	CN	R600a	8,74	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMXA9CE	CN	R600a	8,74	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMXY9C	CN	R600a	8,74	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMXY9CE	CN	R600a	8,74	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VESH9C	CN	R600a	9,04	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VESF9C	CN	R600a	9,04	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VESD9C+	CN	R600a	9,04	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VESA9C	CN	R600a	9,04	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
FMSA9C	BR	R600a	6,51	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMSY9C	BR	R600a	6,51	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM

Variable speed compressors for Japan market can be delivered with different electricals set up. Nidec GA can deliver the set with 200V 50-60Hz ~3 phase input, 100V 50-60Hz single phase input or DC input, please, contact technical support for more information.

Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (ml)	Type / Viscosity	Kg
Capillary Tube	ASHRAELBP32	1300	62,4	1,76	175	ALQUILB / ISO5	4,8
		1600	78,8	1,85			
		2000	100	1,87			
		3000	151	1,86			
Capillary Tube	ASHRAELBP32	4000	185	1,75	175	ALQUILB / ISO5	4,8
		1300	62,1	1,70			
		2000	98	1,80			
		3000	145	1,77			
Capillary Tube	ASHRAELBP32	4000	184,5	1,70	175	ALQUILB / ISO5	4,8
		1300	62,1	1,70			
		2000	98	1,80			
		3000	145	1,78			
Capillary Tube	ASHRAELBP32	4800	216,8	1,66	175	ALQUILB / ISO5	4,8
		1300	62	1,65			
		2000	98	1,71			
		3000	145	1,75			
Capillary Tube	ASHRAELBP32	4000	180	1,65	175	ALQUILB / ISO5	4,8
		2000	98	1,71			
		4800	216,8	1,63			
		1300	69,4	2,09			
Capillary Tube	ASHRAELBP32	1600	86,4	2,10	205	ALQUILB / ISO5	6,8
		2000	107	2,09			
		4000	210	1,91			
		4500	217	1,89			
Capillary Tube	ASHRAELBP32	950	47	1,90	205	ALQUILB / ISO5	6,2
		1300	69	1,94			
		1600	86	1,95			
		2000	107	1,94			
		3000	160	1,93			
		4000	210	1,79			
Capillary Tube	ASHRAELBP32	4500	217	1,80	190	ALQUILB / ISO5	6,8
		1300	65,3	1,88			
		1600	81,8	1,93			
		2000	104	1,94			
		3000	160	1,90			
Capillary Tube	ASHRAELBP32	4300	210	1,78	200	ALQUILB / ISO5	6,1
		1300	66,5	1,73			
		1600	82,6	1,83			
		2000	104	1,86			
Capillary Tube	ASHRAELBP32	3000	159	1,85	140	ALQUILB / ISO5	3,6
		4500	223	1,71			
		1800	68,9	1,78			
		2800	102,9	1,80			
Capillary Tube	ASHRAELBP32	4000	151	1,78	140	ALQUILB / ISO5	3,6
		6300	215,1	1,62			
		1800	66,8	1,59			
		2800	102	1,72			
		4000	149	1,70			
Capillary Tube	ASHRAELBP32	5000	181,4	1,65	140	ALQUILB / ISO5	3,6
		6300	214,8	1,58			
		1800	66,8	1,59			

Variable-Speed Compressors | R600a | L/MBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
FMSU9C	BR	R600a	6,51	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VEMC9C	CN	R600a	9,04	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMX9C+	CN	R600a	9,04	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMZ9C	BR	R600a	9,34	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMT9C	CN	R600a	9,04	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VESD10C	CN	R600a	9,5	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMXC11C	CN	R600a	10,85	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VESH11C	CN	R600a	6,6	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VESF11C	CN	R600a	11,14	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VESC11C	CN	R600a	11,14	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM

Variable speed compressors for Japan market can be delivered with different electricals set up. Nidec GA can deliver the set with 200V 50-60Hz ~3 phase input. 100V 50-60Hz single phase input or DC input. please, contact technical support for more information.

Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (ml)	Type / Viscosity	Kg
Capillary Tube	ASHRAELBP32	1800	68	1,59	140	ALQUILB / ISO5	3,6
		2800	106,1	1,65			
		4000	150	1,62			
		6300	215	1,48			
Capillary Tube	ASHRAELBP32	1200	62,4	1,89	210	ALQUILB / ISO5	8,0
		1600	85,6	1,95			
		2000	107	1,96			
		3000	159	1,96			
		4500	214	1,87			
Capillary Tube	ASHRAELBP32	1200	64,5	1,71	210	ALQUILB / ISO5	7,3
		1600	84,1	1,80			
		2000	107	1,88			
		3000	163	1,93			
		4500	222	1,85			
Capillary Tube	ASHRAELBP32	1600	96,7	1,82	220	ALQUILB / ISO5	7,6
		2000	114,3	1,83			
		3000	170,2	1,83			
		4500	226,8	1,68			
Capillary Tube	ASHRAELBP32	1200	61,2	1,57	220	ALQUILB / ISO5	7,3
		1600	84,1	1,72			
		2000	107	1,75			
		3000	154,4	1,78			
		4500	214,2	1,70			
Capillary Tube	ASHRAELBP32	1300	71,8	1,96	190	ALQUILB / ISO5	6,8
		1600	86,1	1,93			
		2000	109	1,92			
		3000	162	1,87			
		4500	207	1,74			
Capillary Tube	ASHRAELBP32	1300	88,8	1,83	150	ALQUILB / ISO5	5,0
		2000	132	1,84			
		3000	193	1,81			
		4500	261	1,64			
		4800	269,3	1,62			
Capillary Tube	ASHRAELBP32	950	64,5	2,01	205	ALQUILB / ISO5	11,1
		1300	85,9	2,07			
		1600	106,7	2,09			
		2000	133	2,08			
		3000	199	1,98			
		4500	253	1,88			
Capillary Tube	ASHRAELBP32	950	63	1,88	205	ALQUILB / ISO5	6,2
		1300	86	1,94			
		1600	107	1,99			
		2000	134	1,97			
		3000	201	1,92			
Capillary Tube	ASHRAELBP32	1300	86,1	1,89	160	ALQUILB / ISO5	6,4
		1600	107,2	1,91			
		2000	137	1,93			
		3000	207	1,88			
		4500	276	1,76			

Variable-Speed Compressors | R600a | L/MBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
VESA11C	CN	R600a	11,14	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
FMSD11C	BR	R600a	7,87	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMSA11C	BR	R600a	7,87	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMSY11C	BR	R600a	7,87	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VEMB11C	CN	R600a	11,14	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMX11C+	CN	R600a	11,14	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMT11C	CN	R600a	11,14	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VESD13C	CN	R600a	13,27	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VESC13C	CN	R600a	13,27	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM

Variable speed compressors for Japan market can be delivered with different electricals set up. Nidec GA can deliver the set with 200V 50-60Hz ~3 phase input, 100V 50-60Hz single phase input or DC input, please, contact technical support for more information.

Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (ml)	Type / Viscosity	Kg
Capillary Tube	ASHRAELBP32	1300	84,1	1,81	190	ALQUILB / ISO5	6,5
		1600	104	1,85			
		2000	131	1,85			
		3000	194,9	1,80			
		3900	233,2	1,71			
Capillary Tube	ASHRAELBP32	4500	247,9	1,65	140	ALQUILB / ISO5	3,6
		1800	82	1,86			
		2800	126	1,92			
		4000	182	1,85			
		6300	264	1,66			
Capillary Tube	ASHRAELBP32	1800	82,6	1,79	140	ALQUILB / ISO5	3,6
		2800	126	1,80			
		4000	183	1,79			
		6300	263,7	1,61			
Capillary Tube	ASHRAELBP32	1800	82,6	1,67	140	ALQUILB / ISO5	3,6
		2800	123,9	1,72			
		4000	180	1,71			
		5000	219,8	1,65			
		6300	263,7	1,55			
Capillary Tube	ASHRAELBP32	1600	107,8	1,85	450	ALQUILB / ISO5	7,6
		2000	135	1,90			
		3000	204	1,89			
		4500	281	1,75			
Capillary Tube	ASHRAELBP32	1200	84,4	1,81	210	ALQUILB / ISO5	7,4
		1600	107,2	1,92			
		2000	133	1,90			
		3000	196	1,89			
		3900	230,6	1,76			
		4000	237	1,75			
		4300	257,9	1,75			
4500	267	1,72					
Capillary Tube	ASHRAELBP32	1600	106,1	1,82	210	ALQUILB / ISO5	6,75
		2000	133	1,85			
		3000	196	1,85			
		4300	264,6	1,67			
Capillary Tube	ASHRAELBP32	1300	102	1,89	190	ALQUILB / ISO5	6,8
		1600	124	1,93			
		2000	158	1,93			
		3000	158	1,93			
		4500	325	1,65			
Capillary Tube	ASHRAELBP32	1300	101,4	1,85	190	ALQUILB / ISO5	6,7
		2000	157	1,91			
		3000	233	1,84			
		4500	295	1,65			

Variable-Speed Compressors | R1234yf | L/MBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
VEMX6L	CN	R1234yf	6,36	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VEGD6L	BR	R1234yf	6,44	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/M/HBP	HST	BPM
FMFT411L	BR	R1234yf	10,85	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	HST	BPM
FMFT415L	BR	R1234yf	14,77	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	HST	BPM

Variable-Speed Compressors | R134a | L/MBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
VEMY3H	BR	R134a	3	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VESA4H	CN	R134a	4,25	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMY4H	BR	R134a	3,97	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMZ4H	BR	R134a	4,25	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMY5H	BR	R134a	4,99	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMT5H	BR	R134a	4,99	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VESA6H	CN	R134a	5,96	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM

Variable speed compressors for Japan market can be delivered with different electricals set up. Nidec GA can deliver the set with 200V 50-60Hz ~3 phase input, 100V 50-60Hz single phase input or DC input, please, contact technical support for more information.

Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (m)	Type / Viscosity	Kg
Capillary Tube	ASHRAELBP32	1300	84,1	1,81	220	ESTER / ISO10	7,5
		1600	104	1,85			
Capillary Tube or Expansion Valve	ASHRAELBP32	1800	82	1,86	350	ESTER / ISO10	10,8
Capillary Tube or Expansion Valve	ASHRAELBP32	1800	82,6	1,67	430	ESTER / ISO10	10,9
		2800	123,9	1,72			
		4000	180	1,71			
		5000	219,8	1,65			
		6300	263,7	1,55			
Capillary Tube or Expansion Valve	ASHRAELBP32	1600	107,8	1,85	430	ESTER / ISO10	10,9
		2000	135	1,90			
			204	1,89			

Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (m)	Type / Viscosity	Kg
Capillary Tube	ASHRAELBP32	1600	40,7	1,45	220	ESTER / ISO10	7,5
		2000	53	1,55			
		3000	84,4	1,53			
		4500	125,7	1,48			
Capillary Tube	ASHRAELBP32	1400	51,9	1,62	190	ESTER / ISO10	6,6
		1600	56,3	1,63			
		2000	73	1,66			
		3000	111	1,64			
Capillary Tube	ASHRAELBP32	1600	63	1,64	220	ESTER / ISO10	7,5
		2000	78	1,66			
		3000	116	1,58			
		4500	170	1,55			
Capillary Tube	ASHRAELBP32	1200	53,3	1,67	220	ESTER / ISO10	7,5
		1600	70,9	1,75			
		2000	88	1,74			
		3000	134	1,74			
Capillary Tube	ASHRAELBP32	1600	83,8	1,72	220	ESTER / ISO10	7,5
		2000	101	1,76			
		3000	151,5	1,69			
		4500	206	1,60			
Capillary Tube	ASHRAELBP32	1600	81,5	1,49	220	ESTER / ISO10	7,2
		2000	96	1,54			
		3000	148	1,57			
		4000	189	1,53			
Capillary Tube	ASHRAELBP32	1400	89,4	1,64	190	ESTER / ISO10	6,5
		1600	82,6	1,67			
		2000	106	1,67			
		3000	159	1,66			
		4500	204	1,62			

Variable-Speed Compressors | R134a | L/MBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
VEMY6H	BR	R134a	5,72	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEMY6HH	BR	R134a	5,72	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/M/HBP	LST	BPM
VEMX6H	CN	R134a	5,72	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VESA7H	CN	R134a	7,15	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEGD7H	BR	R134a	7,23	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEGY7H	BR	R134a	7,15	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEGD8H	BR	R134a	8,03	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEGY8H	BR	R134a	7,95	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	LST	BPM
VEGT8HB	BR	R134a	7,95	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
FMFT41IZ	BR	R134a	10,85	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	HST	BPM
VEGT11HB	BR	R134a	10,61	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST	BPM
VNEK610Z	SK	R134a	9,99	115-127 V 50-60 Hz 220-240 V 50-60 Hz	HBP	HST	BPM

Variable speed compressors for Japan market can be delivered with different electricals set up. Nidec GA can deliver the set with 200V 50-60Hz ~3 phase input, 100V 50-60Hz single phase input or DC input, please, contact technical support for more information.

Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (ml)	Type / Viscosity	Kg
Capillary Tube	ASHRAELBP32	1600	96,7	1,63	220	ESTER / ISO10	7,6
		2000	113	1,67			
		3000	173,5	1,68			
		4500	243,2	1,58			
Capillary tube	ASHRAELBP32	1600	97	1,67	220	ESTER / ISO10	7,5
		3000	169,4	1,71			
		4500	225	1,60			
Capillary Tube	ASHRAELBP32	2000	113,7	1,67	220	ALQUILB / ISO5	7,8
		3000	173,5	1,69			
		4500	234,5	1,58			
Capillary Tube	ASHRAELBP32	1400	97,3	1,65	190	ESTER / ISO10	6,6
		1600	106,4	1,69			
		2000	134	1,67			
		3000	199	1,66			
Capillary Tube	ASHRAELBP32	1400	104,6	1,80	350	ESTER / ISO10	10,7
		1600	112,5	1,81			
		2000	143	1,83			
		3000	219	1,78			
Capillary Tube	ASHRAELBP32	1600	120,1	1,73	430	ESTER / ISO10	10,9
		2000	139	1,74			
		3000	224	1,75			
		4500	314	1,61			
Capillary Tube	ASHRAELBP32	1400	121,9	1,79	350	ESTER / ISO10	10,7
		1600	128,1	1,81			
		2000	162	1,81			
		3000	245	1,78			
Capillary Tube	ASHRAELBP32	1600	137	1,72	430	ESTER / ISO10	10,9
		2000	167	1,76			
		3000	255	1,75			
		4500	313	1,73			
Capillary tube	ASHRAELBP32	1800	137	1,72	430	ESTER / ISO10	10,8
		3000	256	1,76			
		4500	340	1,64			
Capillary Tube or Expansion Valve	ASHRAELBP32	1600	188,7	1,85	430	ESTER / ISO10	10,9
		2400	281,6	1,85			
		3000	343,4	1,81			
		3600	404,1	1,76			
Capillary tube	ASHRAELBP32	1800	191	1,67	430	ESTER / ISO22	10,0
		2500	266	1,66			
		3000	322	1,66			
		3600	378	1,63			
Capillary Tube or Expansion Valve	ENI2900HBP_HH	2000	630	2,55	500	ESTER / ISO22	11,6
		2400	732	2,50			
		3000	899	2,40			
		4500	1231	2,07			

Variable-Speed Compressors | R134a | L/MBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
FMFT415Z	BR	R134a	14,77	115-127 V 50-60 Hz 220-240 V 50-60 Hz	L/MBP	LST/HST	BPM
VNEK614Z	SK	R134a	14,28	115-127 V 50-60 Hz 220-240 V 50-60 Hz	HBP	HST	BPM

Variable-Speed Compressors | R404A | LBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
VNEK206GK	SK	R404A	6,2	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	HST	BPM
VNEK212GK	SK	R404A	12,11	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	HST	BPM
VNEU213GK	SK	R404A	13,54	115-127 V 50-60 Hz 220-240 V 50-60 Hz	LBP	HST	BPM

Variable-Speed Compressors | R404A | MBP

Model	Origin	Refrigerant	Displacement	Voltage / Frequency	Envelope	Torque	Motor Type
VNEK606GK	SK	R404A	6,2	115-127 V 50-60 Hz 220-240 V 50-60 Hz	MBP	HST	BPM
VNEK609GK	SK	R404A	8,77	115-127 V 50-60 Hz 220-240 V 50-60 Hz	MBP	HST	BPM

Variable speed compressors for Japan market can be delivered with different electricals set up. Nidec GA can deliver the set with 200V 50-60Hz ~3 phase input, 100V 50-60Hz single phase input or DC input, please, contact technical support for more information.

Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (ml)	Type / Viscosity	Kg
Capillary Tube or Expansion Valve	ASHRAELBP32	1400	218,3	1,66	430	ESTER / ISO10	10,9
		1600	245,8	1,72			
		3000	422	1,65			
		3600	481,1	1,59			
Capillary Tube or Expansion Valve	ENI2900HBP_HH	4500	555,3	1,47	500	ESTER / ISO22	11,6
		2000	905	2,46			
		2400	1030,9	2,40			
		3000	1233	2,26			
Capillary Tube or Expansion Valve	ENI2900HBP_HH	3600	1415,9	2,12	500	ESTER / ISO22	11,6
		4500	1637	1,90			

Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (ml)	Type / Viscosity	Kg
Capillary Tube or Expansion Valve	ASHRAELBP32	2000	226	1,26	500	ESTER / ISO22	11,6
		2400	260	1,27			
		3000	327	1,27			
		3600	385	1,25			
Capillary Tube or Expansion Valve	ASHRAELBP32	4500	468	1,21	500	ESTER / ISO22	11,6
		2000	441,6	1,33			
		2400	514,3	1,36			
		3000	626	1,35			
Capillary Tube or Expansion Valve	ASHRAELBP32	3600	731,1	1,31	500	ESTER / ISO22	11,6
		4500	859,7	1,26			
		2000	539	1,40			
		2400	620	1,43			
Capillary Tube or Expansion Valve	ASHRAELBP32	3000	762	1,44	500	ESTER / ISO22	11,6
		4500	1045	1,33			

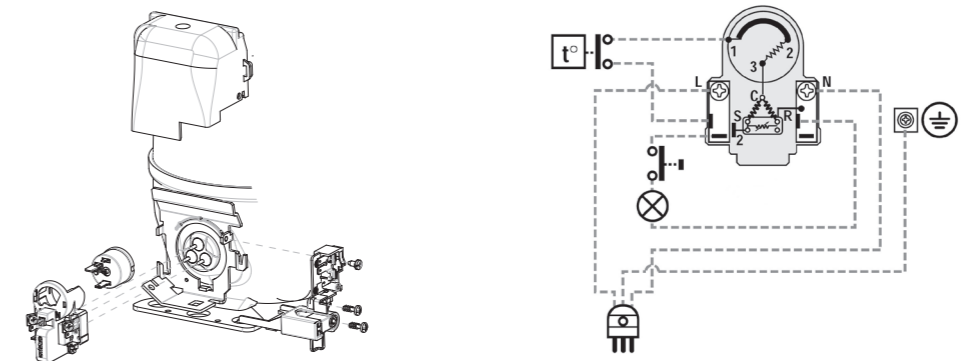
Expansion Device	Test Condition	Cooling Capacity			Lubricant		Weight
		RPM	W	W/W	Oil Charge (ml)	Type / Viscosity	Kg
Capillary Tube or Expansion Valve	ENI2900MBP_HH	2000	380	1,78	500	ESTER / ISO22	11,6
		2400	449,2	1,76			
		3000	559	1,71			
		4500	801	1,55			
Capillary Tube or Expansion Valve	ENI2900MBP_HH	2000	534	1,83	500	ESTER / ISO22	11,6
		2400	627,7	1,85			
		3000	770	1,80			
		4500	1084	1,64			

Wiring Diagrams Key

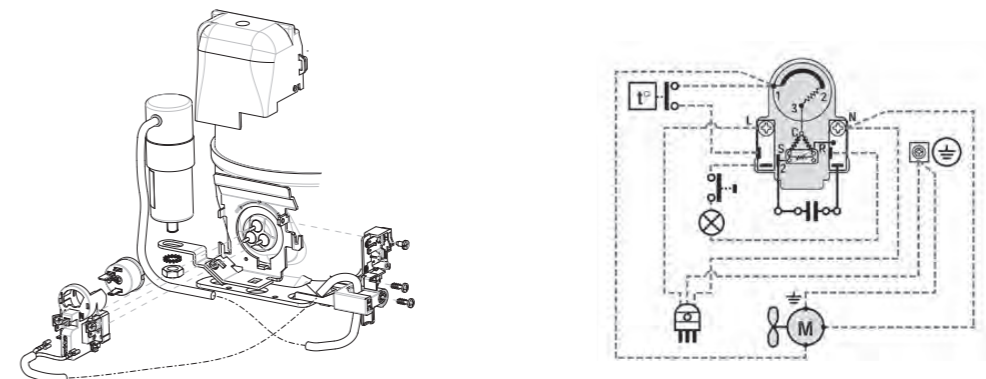
	OVERLOAD PROTECTOR		PTC START DEVICE*
	OVERLOAD PROTECTOR		INTEGRATED PTC DEVICE
	CURRENT START RELAY		CURRENT START RELAY WITH CAPACITOR CONNECTIONS
	3CR CURRENT START RELAY		3ARR3 START RELAY (VOLTAGE).
	RUN CAPACITOR		RUN CAPACITOR (MANDATORY - NOT SUPPLIED)
	OPTIONAL RUN CAPACITOR		START CAPACITOR
	FAN		PUSH BUTTON
	LAMP		SINGLE PHASE MOTOR
	3-PHASE MOTOR		THERMOSTAT
	LOW-HIGH PRESSURE SWITCH		PILOT CIRCUIT 24 OR 220 V
	EARTH CONNECTION		COMMON (INTERNAL OVERLOAD PROTECTOR)
	3-PHASE SUPPLY		START
	SINGLE PHASE SUPPLY		
	COMMON		
	RUN		
	TERMINAL BLOCK		BROWN CABLE
	WHITE CABLE		BLACK CABLE
	BLUE CABLE		RED CABLE
	YELLOW-GREEN CABLE		CONNECTIONS TO BE MADE BY THE CUSTOMER (NOT SUPPLIED)
	CONNECTIONS SUPPLIED		

Wiring Diagrams

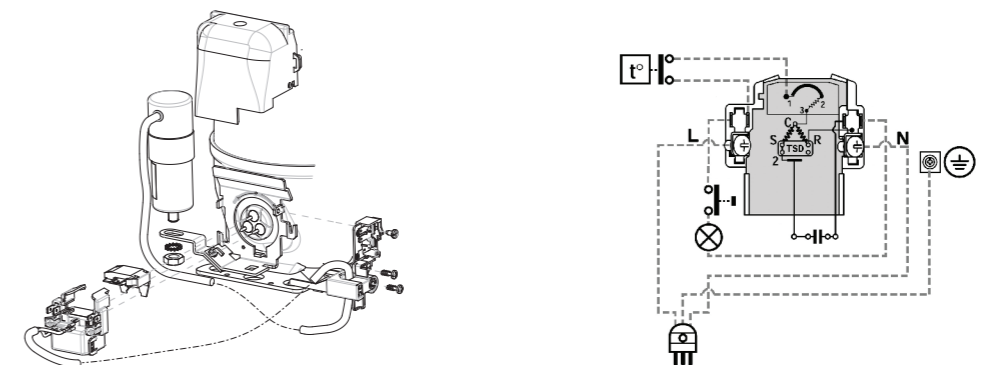
SM00 - EMT/NE SERIES RSIR PTC EUROPEAN VERSION



SM01 - EMT/NE SERIES RSCR PTC EUROPEAN VERSION

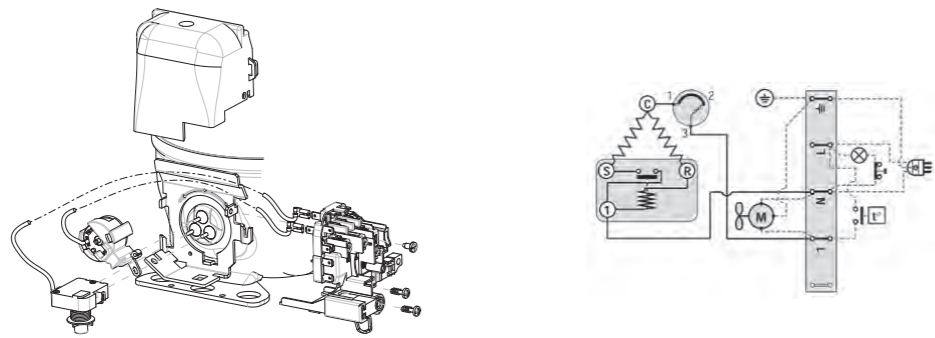


SM02 - EMT/NE SERIES RSCR TSD EUROPEAN VERSION

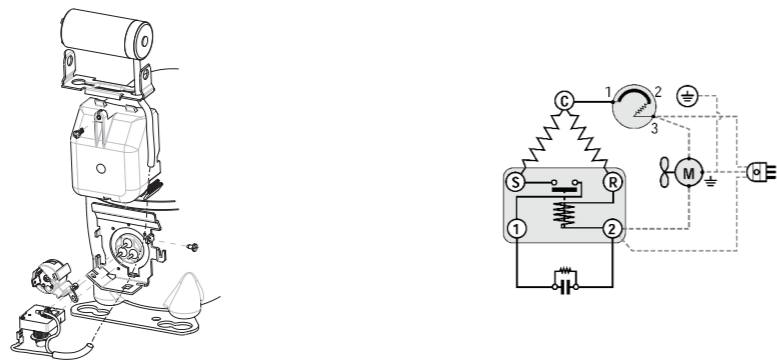


Wiring Diagrams

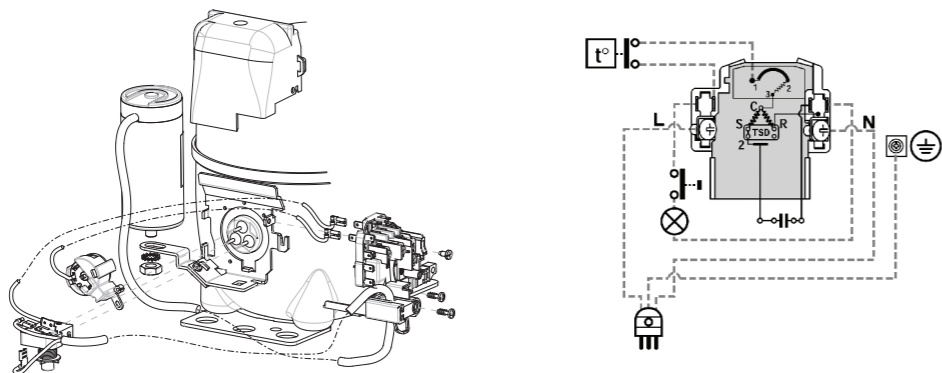
SM03 - EMT/NE SERIES RSIR TERMINAL BOARD & START DEVICE



SM04 - EMT/NE SERIES CSIR AMERICAN VERSION

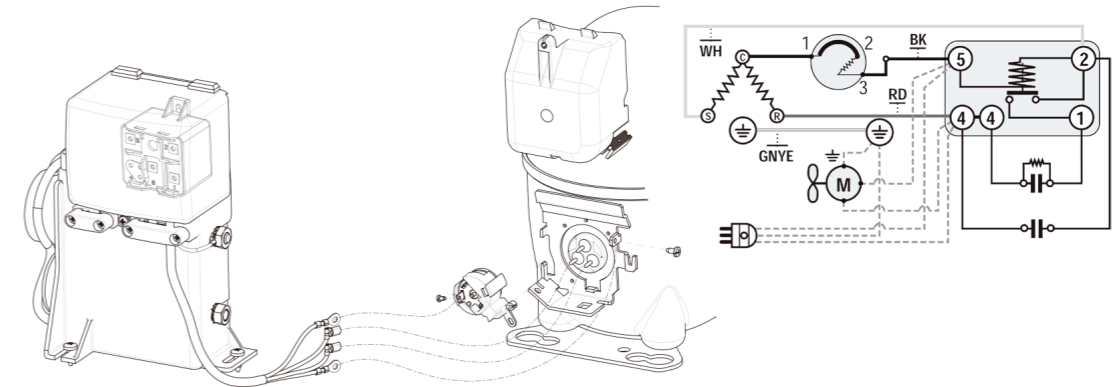


SM05 - EMT/NE SERIES CSIR TERMINAL BOARD & START DEVICE

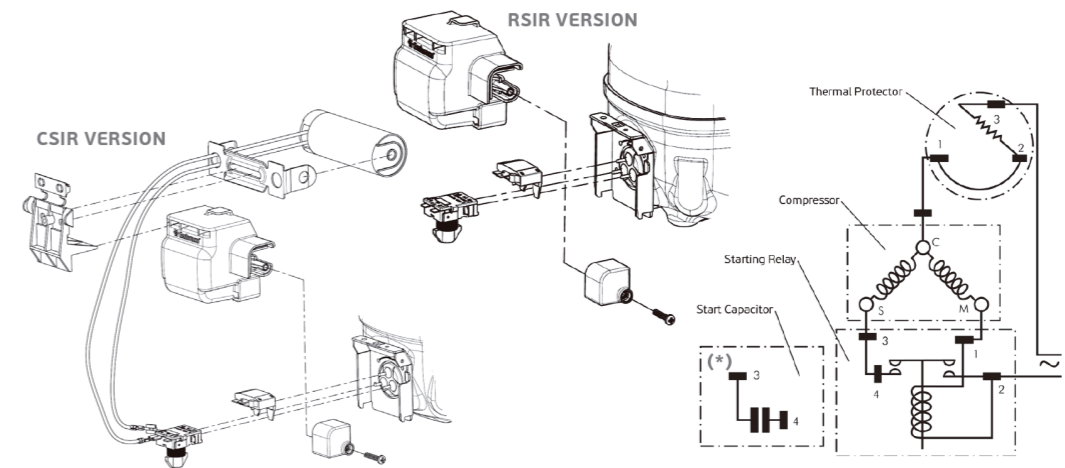


Wiring Diagrams

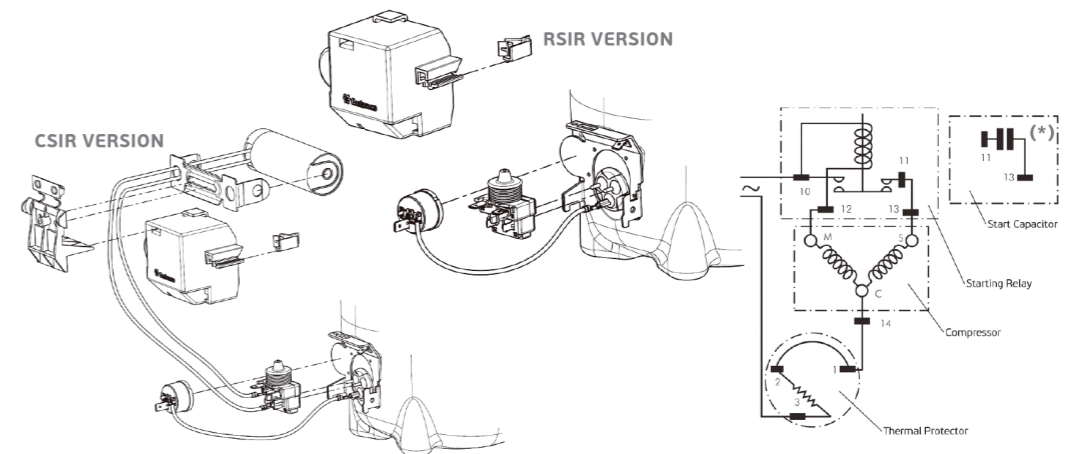
SM07 - NE SERIES CSR BOX



SM08 - F COMPRESSORS

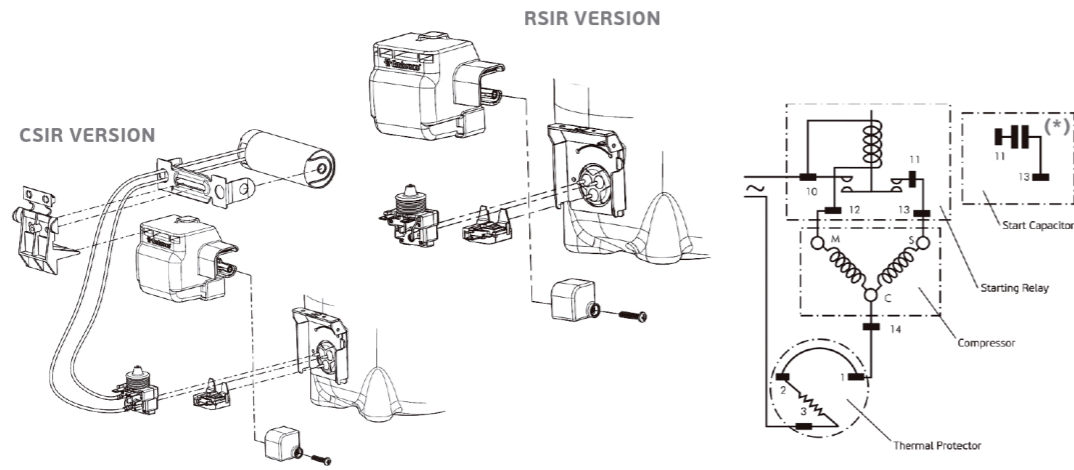


SM05 - EMT/NE SERIES CSIR TERMINAL BOARD & START DEVICE

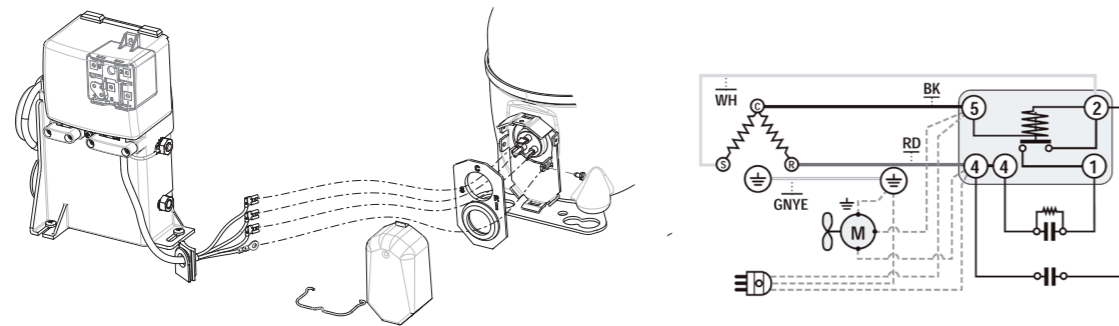


Wiring Diagrams

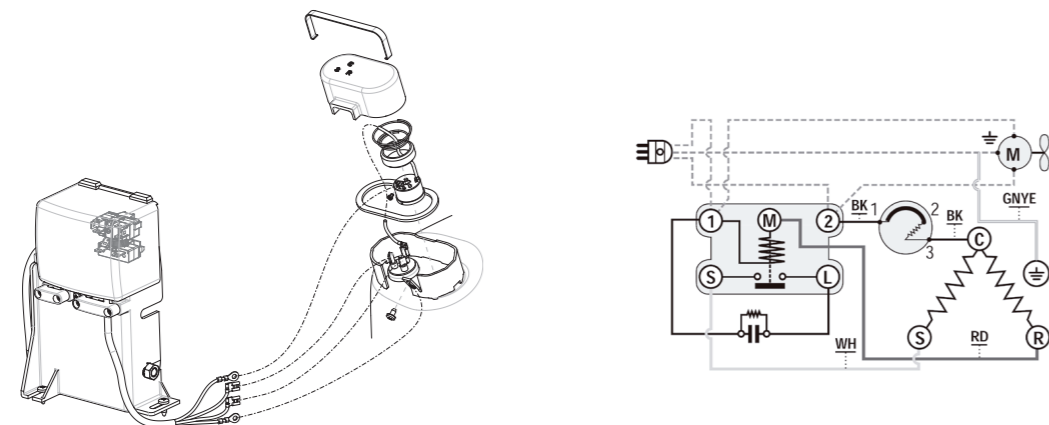
SM09 - EG



SM10 - NE CSR BOX

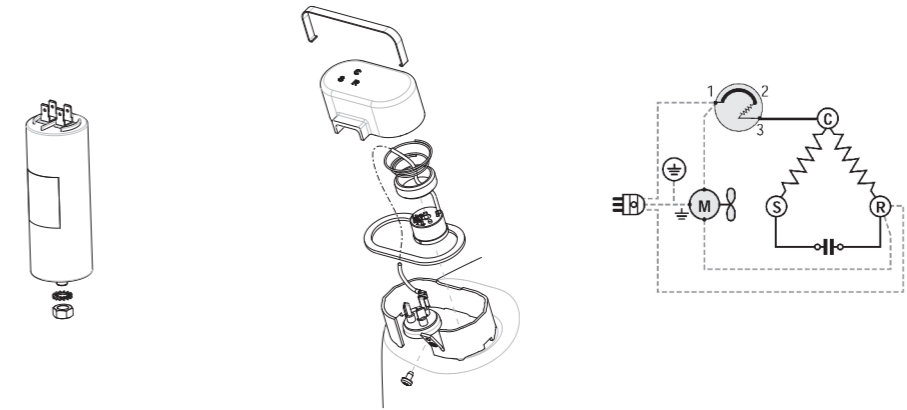


SM14 - NJ CSIR BOX

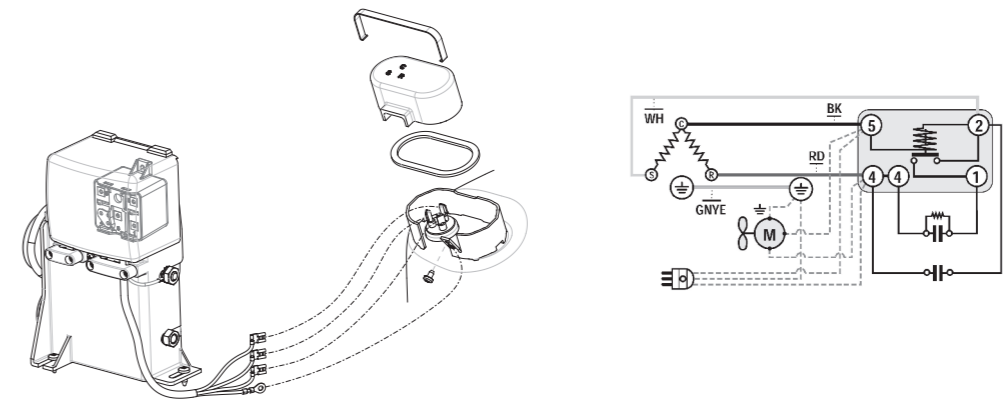


Wiring Diagrams

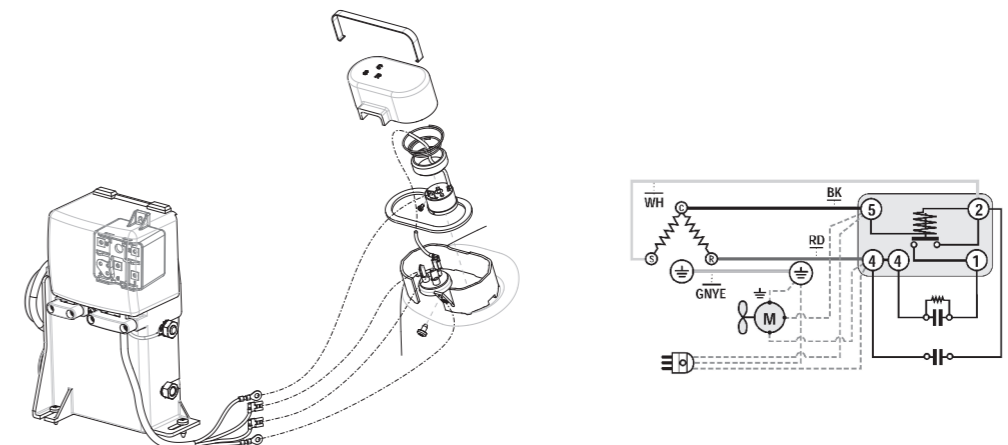
SM15 - NJ PSC



SM16 - NJ SERIES CSR BOX (INTERNAL OVERLOAD PROTECTOR)

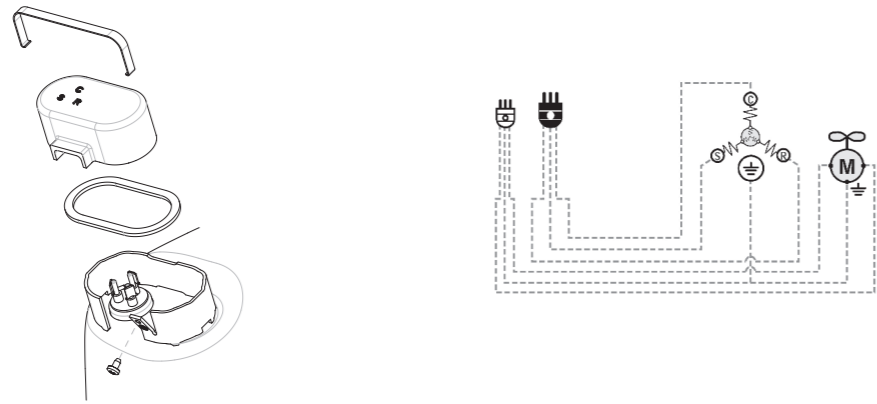


SM17 - NJ CSR BOX (EXTERNAL OVERLOAD PROTECTOR)

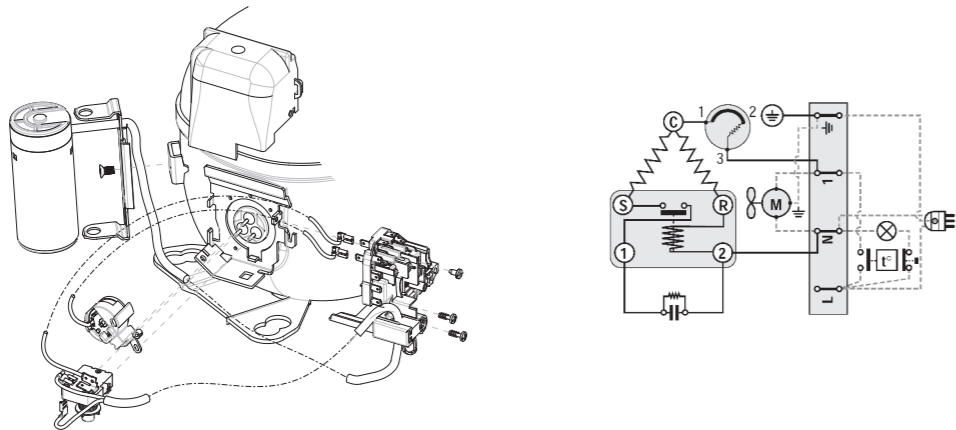


Wiring Diagrams

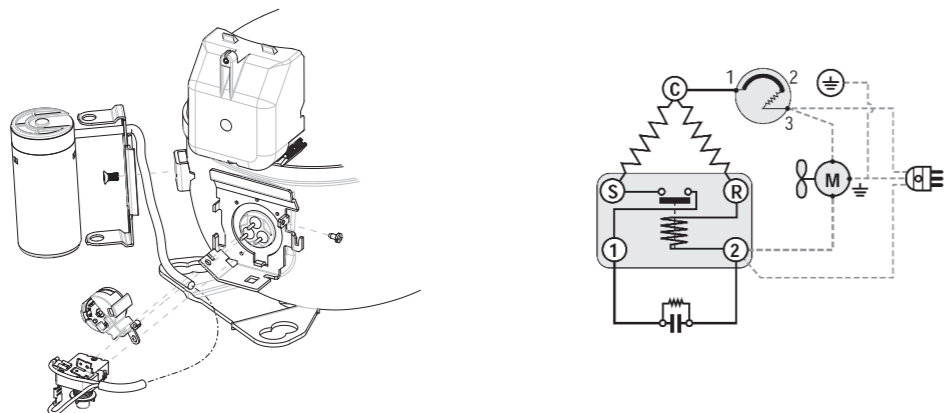
SM18 - NJ SERIES 3- PHASE (INTERNAL OVERLOAD PROTECTOR)



SM19 - NT SERIES CSIR TERMINAL BOARD

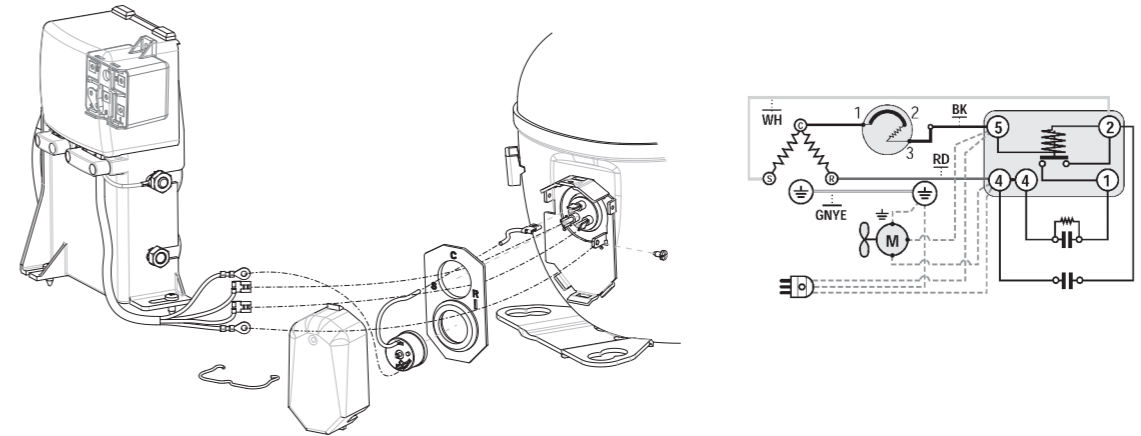


SM20 - NT SERIES CSIR AMERICAN VERSION

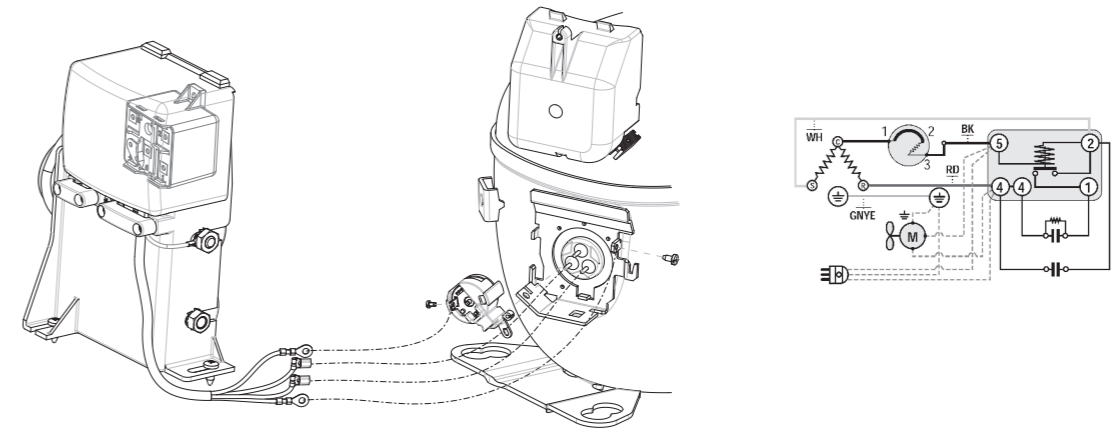


Wiring Diagrams

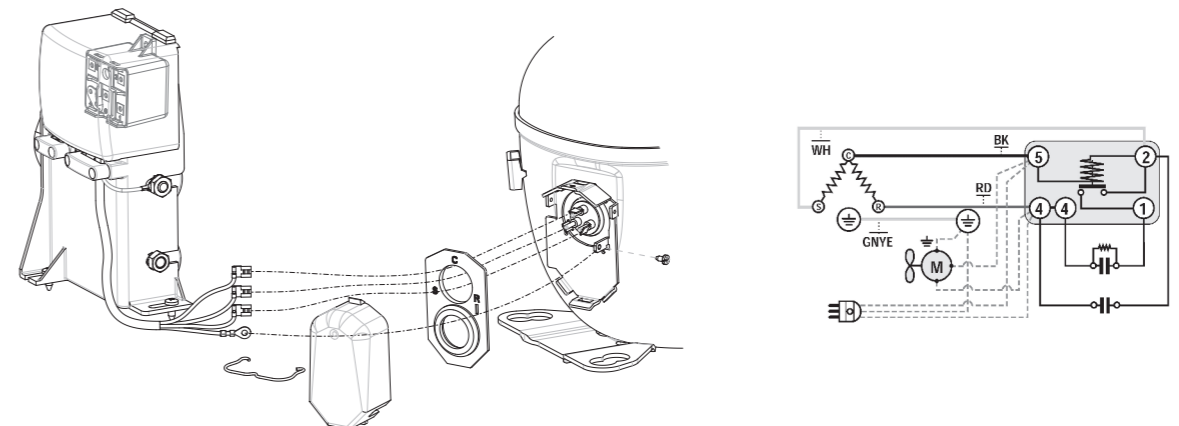
SM21 - NT SERIES CSR BOX



SM23 - NT SERIES CSR BOX

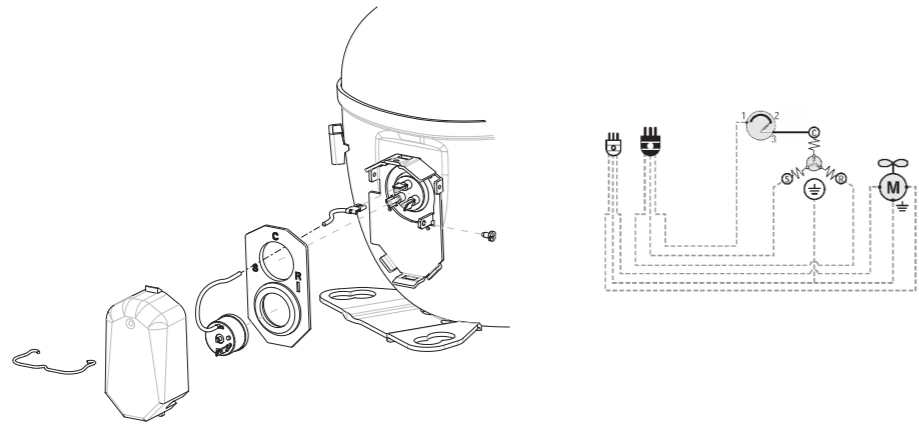


SM26 - NT SERIES CSR BOX (INTERNAL OVERLOAD PROTECTOR)

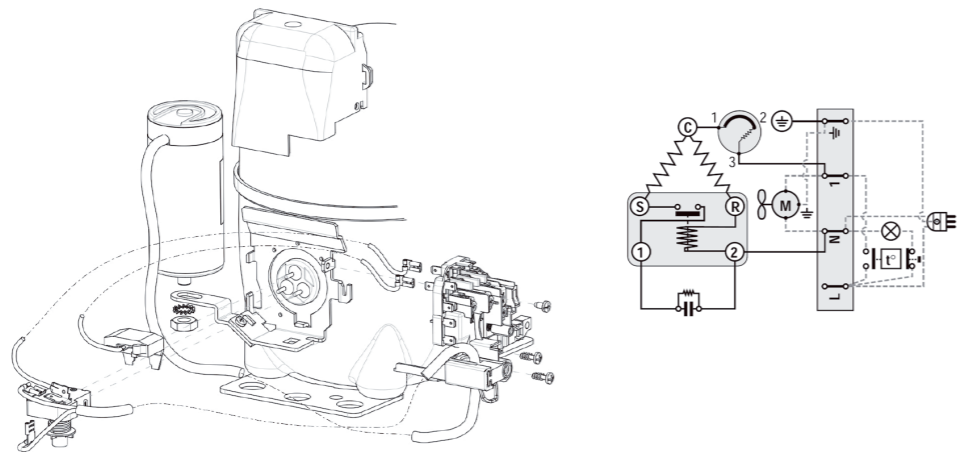


Wiring Diagrams

SM27 - NT SERIES 3- PHASE (INTERNAL + EXTERNAL OVERLOAD PROTECTOR)

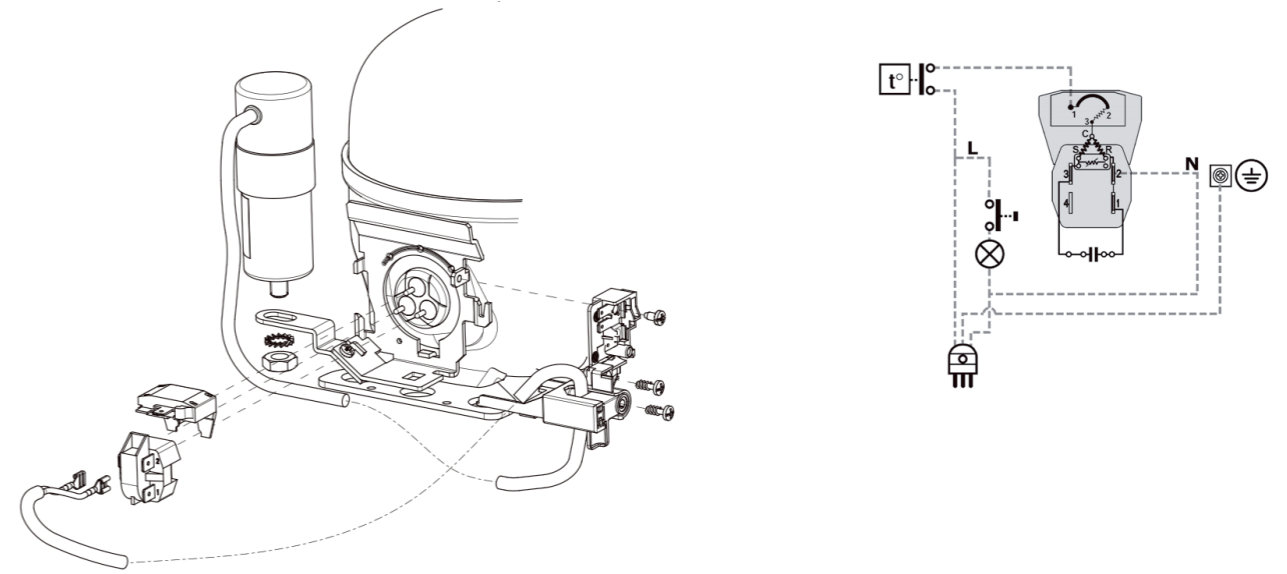


SM29 - EMX SERIES CSIR TERMINAL BOARD & START DEVICE & 4TM

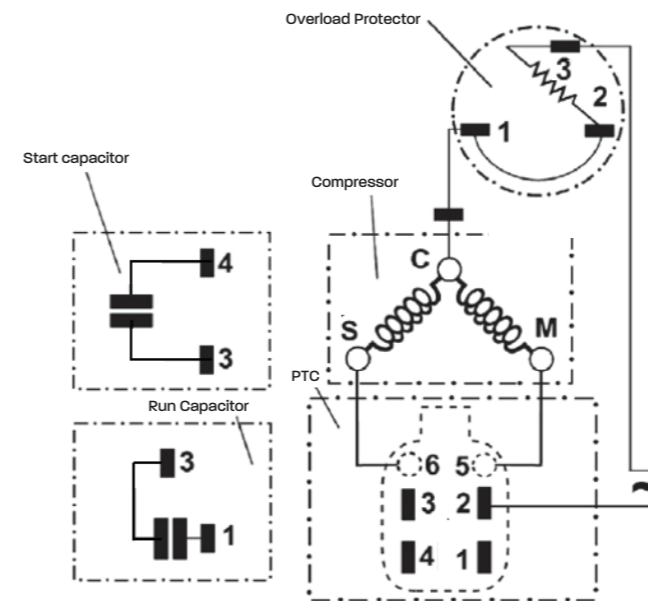


Wiring Diagrams

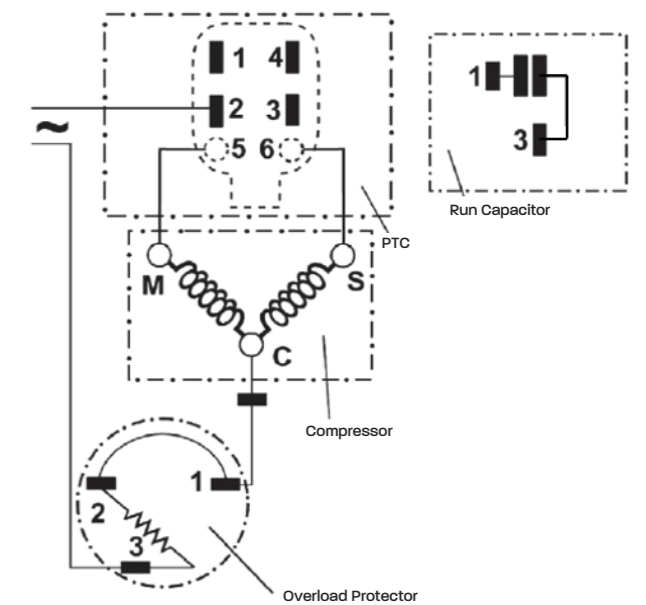
SM32 - EM RSCR PTC & 4TM



SM33 - EM CSCR



SM34 - EG, F RSCR



Electrical Accessories

Before removing the compressor plastic protection cover, check if the compressor is fully disconnected from the power source and if capacitors are applied.



Never operate on any electrical accessory with the compressor connected to the power grid. Working on an electrified compressor can cause severe damages to the technician's health, causing risks of electric shocks or getting burnt.



Start and/or run capacitors must be handled carefully, because, even when disconnected, they can cause electric shocks.

When you need to remove the capacitors, disconnect this components carefully paying attention to the exposed electric terminals. After disconnected, the capacitor must be discharged. Check if the capacitance ranges (μF) printed on the label on the capacitors are in accordance with the compressor's technical data. The capacitor's voltage must be the same or higher than the specified value in the compressor's technical data. In case the capacitor or compressor's specification don't match, replace the capacitor.



The application of the wrong capacitor, not specified component, may cause overheating of these components. Overheating may cause fractures on the capacitor which can lead to the leakage of internal content burning the operator.

In the case of removing the electrical components from the compressor's hermetic terminal, first remove the overload protector and the start device (relay or PTC) applying longitudinal force on the terminal pins. Never apply transversal force on the pins of the hermetic terminal.



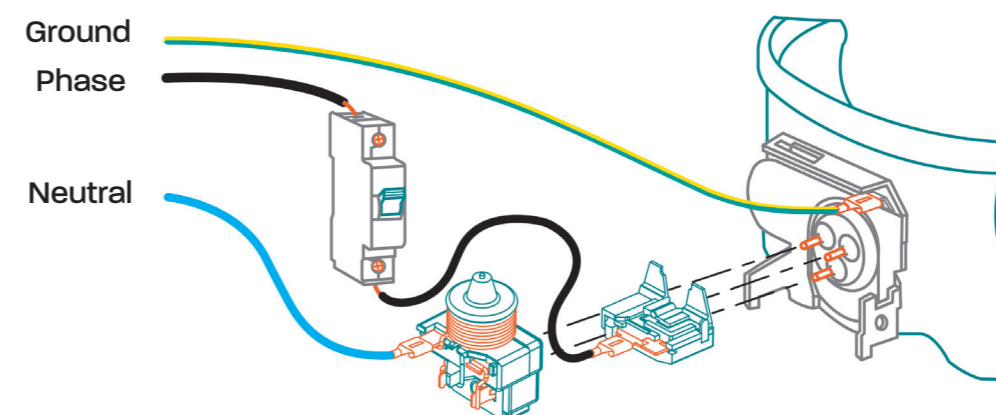
The incorrect removal of these accessories may damage the hermetic terminal on the compressor which can lead to the hermetic pins to be dislodged, causing refrigerant leakage. This situation becomes more critical in the case of flammable refrigerant utilization, since associated with an ignition source, creating a risk of and exposed flame with serious risks to the technician's physical integrity.

Cross check the code printed on the overload protector, relay or PTC with the compressor's technical data. In case they are different, replace these components for a compliant one. Universal accessories don't exist, you must always use components specified on the compressor's technical data.

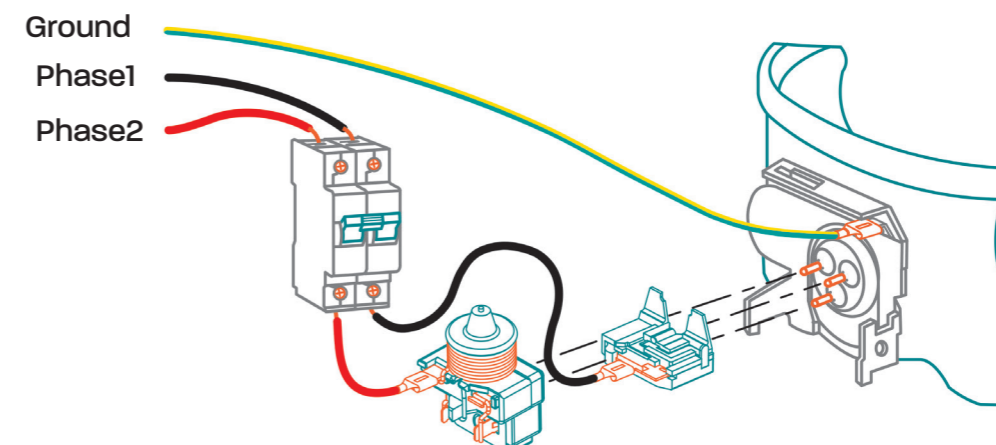


The use of incorrect electrical components, (overload protector, starting device) can cause a short circuit in the region the hermetic terminal of the compressor, which can lead to the hermetic pins to be dislodged, causing refrigerant leakage. This situation becomes more critical in the case of flammable refrigerant utilization, since associated with an ignition source, creating a risk of and exposed flame with serious risks to the technician's physical integrity.

Electrical Installation



On single-phase installations, the phase wire must be protected by a circuit breaker and connected to the overload protector. The Neutral wire must be connected to the start device (Relay or PTC). The system must be grounded.



On two-phase installations, the use of a bipolar circuit breaker is mandatory, because in case of a short circuit, both phases will be protected. The system must be grounded.



When this bipolar starter isn't applied, the system is exposed to a short circuit in the region the hermetic terminal of the compressor, which can lead to the hermetic pins to be dislodged, causing refrigerant leakage. This situation becomes more critical in the case of flammable refrigerant utilization, since associated with an ignition source, creating a risk of and exposed flame with serious risks to the technician's physical integrity.

The usage of a not grounded system can generate severe risk of an electric shock on the technician.

Compressor

If the compressor's replacement is necessary, be aware to these points below:

I. Check if the compressor is disconnected from the power grid.



You must never handle any electrical accessory with the compressor connected to the power grid. This can prevent several health risks to the technicians, such as electric shocks or getting burnt.

II. You must never remove the compressor without first removing all the refrigerant inside the system. You can use refrigerant recovery. In the case of replacing compressors with flammable refrigerants, such as R290 or R600a, make sure to remove the whole charge from the system.



The presence of flammable fluid residues can expose the technician to risks.

III. You must always use a pipe cutter to disconnect the pipes from the compressor. Under no circumstances, use the flame torch to disconnect the compressor tubes.



The use of a torch to disconnect the compressor from the system operating with flammable refrigerant can cause fire and release of toxic vapors.

IV. In case of compressor failure and / or internal contamination of the system, clean the refrigeration circuit with a suitable solvent, following the technical guidelines of the solvent manufacturer.



Failure to comply with the solvent manufacturer's technical guidelines may expose the technician to risk of fire or intoxication.

V. Before turning the compressor on:
- Check if the voltage specified on the compressor label in accordance with the power grid and system electrical installation, following item 1.1.



The application of a compressor with a wrong voltage can cause a short circuit in the region the hermetic terminal of the compressor, which can lead to the hermetic pins to be dislodged, causing refrigerant leakage. This situation becomes more critical in the case of flammable refrigerant utilization, since associated with an ignition source, creating a risk of an exposed flame with serious risks to the technician's physical integrity.

- Check if the electrical protection plastic cover is properly inserted.



Failure to use or improperly fix the plastic cover on the electrical terminal may expose the technician to risk of electric shock and fire.

Series of horizontal lines for notes.



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No. 29 Yuhua Road, Area B of Beijing, Tianzhu
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