

CHNT

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INVERTER&SOFT-STARTER

Energy Saving and Efficiency Improving



NVF2G-S Inverter

1. Overview

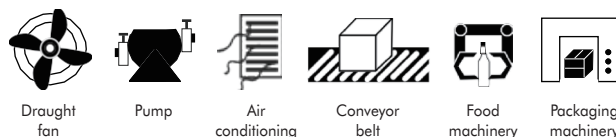
NVF2G-S series is mainly used for variable frequency speed regulation, soft starting, improving operating accuracy, improving power factor, overcurrent, overvoltage, overload protection and other functions of AC asynchronous motors. At the same time, it also has the function of energy conservation and reducing equipment noise.

2. Applications

There are two main types of applicable loads:

- Constant torque type and universal type.
- Variable torque type.

Applicable equipment of the product



3. Technical features

Rated working voltage (V): three-phase 380~440V: 380V(-15%)~440V(+15%)

Power range: 1.5KW~400KW

Output frequency range (Hz): 0Hz-400Hz

Control method: non PG vector control, V/F control

Starting torque: 150% rated torque at 0.5Hz

Overload capacity:

T type: 150% rated current for 1 minute, 180% rated current for 2 seconds;

F type: 120% rated current for 1 minute, 150% rated current for 2 seconds

Multi speed control: 16 speed control

Analog input: 1) AI1: (0-20)mA, (4-20)mA or (0-10)V, (-10~+10)V 2) calibration function

Simple PLC

4. Working conditions

Ambient temperature: (-10~+45) ° C. When using between 45 ° C and 55 ° C, it's necessary to consider derating. The capacity decreases by 1% for every 1 ° C increase in temperature;

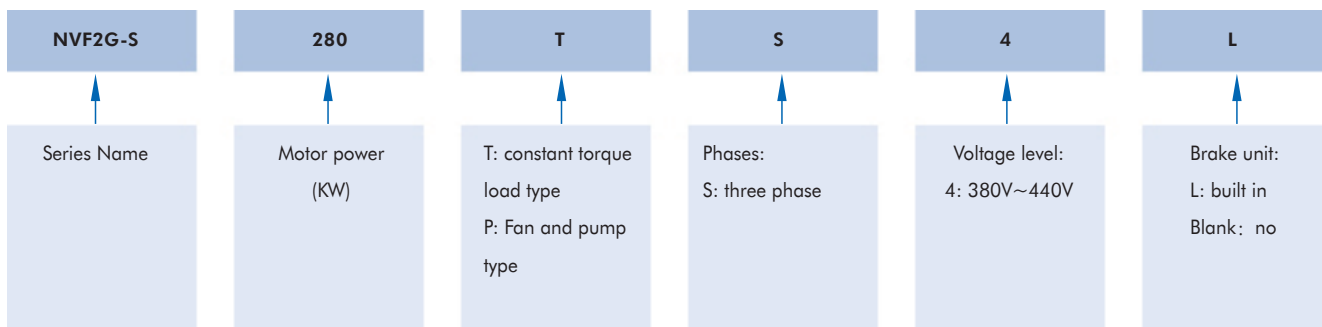
Relative humidity: (5-95)% R H;

Storage temperature: -25 ° C ~+55 ° C,

If the altitude is above 1000 meters, please reduce the rating by 1% for every 100m increase, but it cannot exceed 3000m;

Indoor use, places that are not exposed to direct sunlight, dust, corrosive gases, flammable gases, oil mist, water vapor, dripping water, or salt,

5. Type designation



6. Model selection

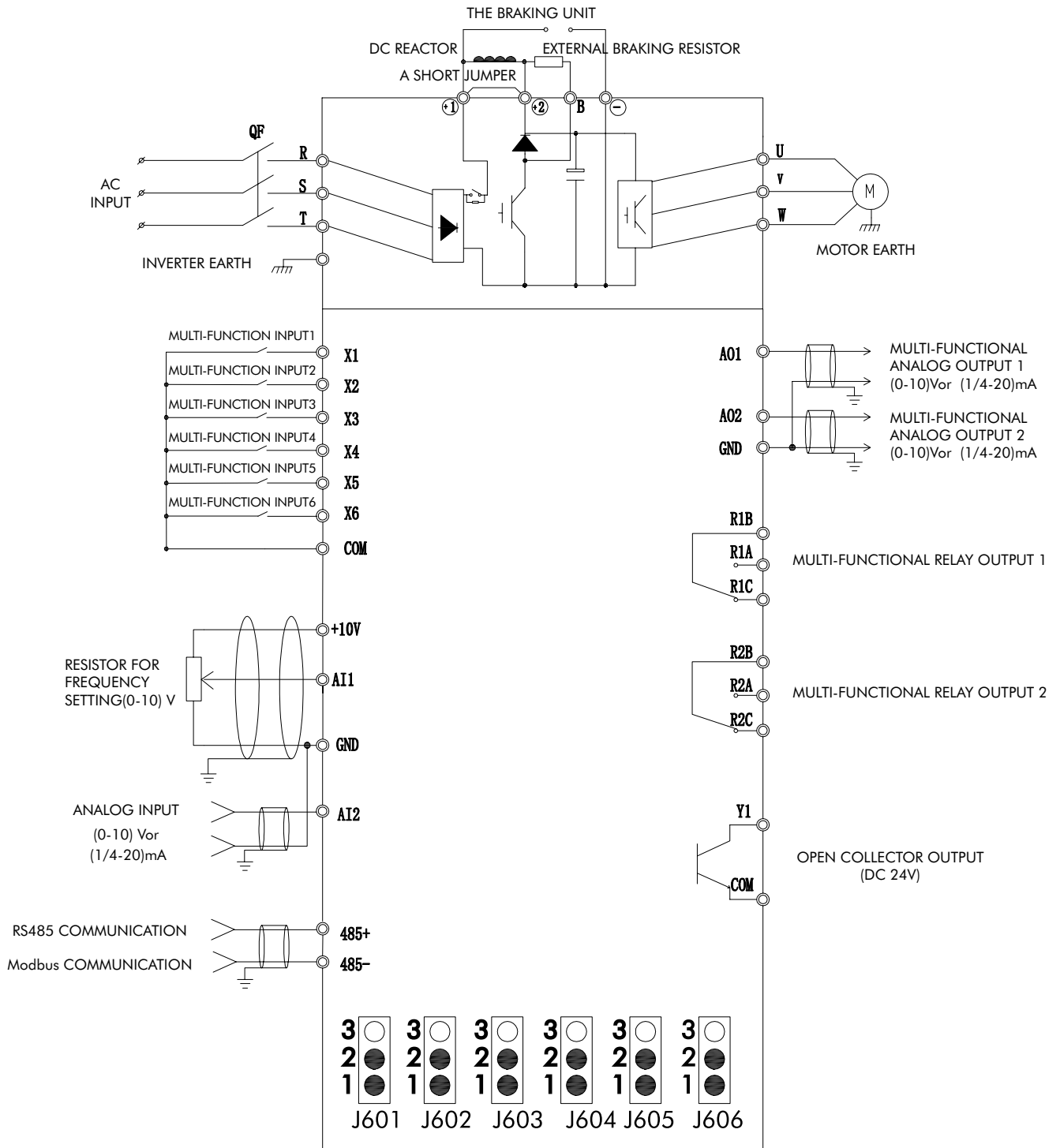
Voltage	Model Type	Capacity (kVA)	Input Current (A)	Output Current(A)	Adapted Motor(kW)	Matched Circuit Breaker (A)
380V(-15%)~440V(+15%)	NVF2G-S-1.5/T(P)S4	3	1.5	3.7	1.5	6
	NVF2G-S-2.2/T(P)S4	4.2	2.5	5	2.2	10
	NVF2G-S-3.7 /T(P)S4	7.6	4	8.5	3.7	16
	NVF2G-S-5.5/T(P)S4	9.9	4	12.2	5.5	20
	NVF2G-S-7.5/T(P)S4	13	6	16.2	7.5	25
	NVF2G-S-11/T(P)S4	18	10	24.6	11	40
	NVF2G-S-15/T(P)S4	25	10	31.4	15	50
	NVF2G-S-18.5/T(P)S4	29	16	37	18.5	63
	NVF2G-S-22/T(P)S4	34	16	45	22	63
	NVF2G-S-30PS4	34	25	60	22	100
	NVF2G-S-30TS4	46	25	60	30	100
	NVF2G-S-37/T(P)S4	57	25	75	37	125
	NVF2G-S-45/T(P)S4	69	35	90	45	160
	NVF2G-S-55/T(P)S4	85	35	110	55	160
	NVF2G-S-75/T(P)S4	114	50	150	75	250
	NVF2G-S-90/T(P)S4	133	70	176	90	250
	NVF2G-S-110/T(P)S4	160	120	210	110	315
	NVF2G-S-132/T(P)S4	195	120	253	132	400
	NVF2G-S-160/T(P)S4	236	120	300	160	630
	NVF2G-S-185/T(P)S4	267	240	340	185	630
	NVF2G-S-200/T(P)S4	289	240	380	200	630
	NVF2G-S-220/T(P)S4	305	150*2	420	220	630
	NVF2G-S-245/T(P)S4	350	150*2	470	245	800
	NVF2G-S-280/T(P)S4	403	185*2	520	280	800
NVF2G-S-315/T(P)S4	420	240*2	600	315	1000	
NVF2G-S-355/T(P)S4	420	240*2	640	355	1000	
NVF2G-S-400/T(P)S4	460	300*2	690	400	1000	

7. Main technical parameters and performance

Item		Description
Input	Rated voltage	Three-phase: 380~440 V: 380V(-15 %) ~ 440V(+15%)
	Frequency	50Hz / 60Hz
	Voltage range	Three-phase: 380V(-15%)~440V(+ 15%)
	Frequency Range	(47~ 63)Hz
Output	Voltage	0~ rated input voltage
	Frequency	(0- 400) Hz
	Overload capacity	T : 150% rated current for 1 minute, 180% rated current for 2 seconds
P type: 120% rated current for 1 minute, 150% rated current for 1 second		
Main control Performance	Control method	No PG Vector Control(SVC) V/F control
	Modulation	Space Vector PWM Modulation
	Starting torque	150% rated torque at 0.5Hz(SVC)
	Frequency resolution	Digital setting: 0.01Hz; Analog setting: maximum frequency × 0.5%
	Torque boost	Automatic torque boost, manual torque boost
	V/F curve	Straight line V/F curve, 3 kinds of torque reduction characteristic curve methods (2.0 power ,1.7 power ,1.2 power), multi -point V/F curve method
	Acceleration and deceleration curve	Linear acceleration and deceleration (4 types)
	Automatic current limiting	Automatically limit the current during operation to prevent frequent over- current fault tripping
Customization function	Jogging	Jogging frequency range: (0.10 ~ 600.00) Hz
		Jogging acceleration and deceleration time (0.1 ~ 6500.0) s can be set, jogging interval time can be set
	Multi-speed operation	Realize multi-stage speed operation through control terminals
Peripheral Interface Features	Run command channel	Operation panel setting and control terminal setting communication control, which can be switched in various ways
	Digital input	6 multifunctional digital programmable inputs
	Digital output	1 channel multi-function digital programmable output
	Analog input	2 -way analog signal input , optional (0~20) mA , (4~20) mA current signal input or (0 ~10) V voltage output
	Analog output	2 channels of analog signal output , respectively optional (0~20) mA , (4~20) mA current output or (0~10) V voltage output, which can realize the output of physical quantities such as set frequency and output frequency
	Relay output	2 relay outputs , 2 normally open and normally closed. Contact capacity: NO 5A/NC 3A250V (AC)
	RS485 communication interface	1 channel, support Modbus protocol
Operation Panel	LED display	Can display more than 20 parameters such as set frequency, output frequency, output voltage, output current, etc.
	Key lock	Realize the locking of all or part of the keys
	Feature selection	Define the scope of action of some keys to prevent misuse
Protective function	With overcurrent protection, overvoltage protection, undervoltage protection, overheat protection, overload protection, phase loss protection and other protection functions	
Structure	Degree of protection	IP20
	Cooling method	Axial DC fan cooling
Installation method		Wall-mounted
Efficiency		37kW and below ≥ 93%; 45 kW and above ≥ 9 5%

8. Wiring diagram

NVF2G-S-1.5/PS4~400/TS4



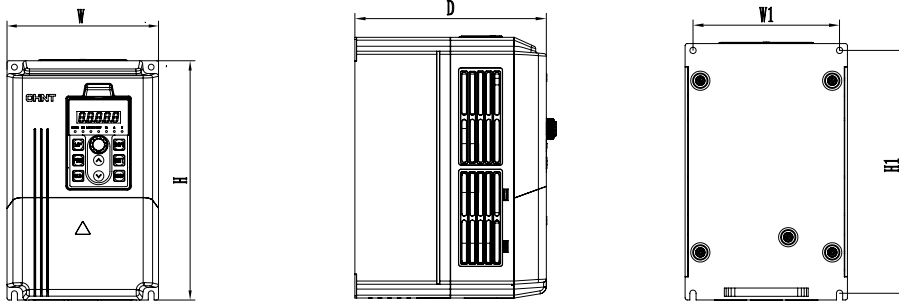
9. Jumper terminal description

Function	Jumper Terminal	Short Connection Location & Definition	Description
AI1	J601	1-2 : V 2-3 : I	V: Voltage type analog input range : (-10- + 10) V;
AI2	J602	1 - 2:V 2-3 :I	I: Current analog input range : (0~20) mA or (4~20) mA
AO1	J603	1-2 : V 2-3 : I	V: Voltage type analog output range : (-10~ + 10)V;
AO2	J604	1-2 : V 2-3 : I	I: Current analog output range : (0~20) mA or (4~20) mA
485 terminal matching resistor	J605	1-2 : no access 2-3 : access	Matching resistor: 4.7kΩ
X1-X6 interface mode	J606	1-2: PNP 2-3: NPN	Default PNP type

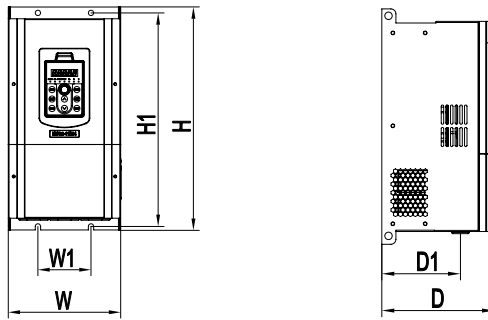
10. Control terminal description

Terminal No.	Terminal name	Description
R1A , R1B , R1C ,R2A , R2B , R2C	Relay contact output	RA and RB are normally open contact groups, RB and RC are normally closed contact groups, the function of RO 1 is set by parameter F6.02 , the factory default default output is fault output , and the function of RO 2 is set by parameter F6.03 , the factory default has no function
YI , COM	Open collector output	The function is set by parameter 6.01 , and the factory value is forward rotation state signal output.
485+ , 485-	serial communication terminal	Terminal for RS485 serial communication with the outside .
+10V	Power supply for frequency setting	And A I1 , AI2 , GND — potentiometer (4.7k Ω ~10k Ω) .
AI1,GND	Analog signal input terminal	Connect to potentiometer or 0V~10V signal as frequency setting , PID setting or PID feedback.
AI2,GND	Analog signal input terminal	Input 0V ~ 10V/0 (4) mA ~ 20mA signal as frequency setting, PID setting or PID feedback.
AO1,GND	Analog signal output terminal	Connect DC 0V - 10V/0 (4) mA ~ 20mA voltmeter between AO1 and GND , which can be used to indicate operating frequency, output current, output voltage, etc.
AO2, GND	Analog signal output terminal	Connect a DC 0V~10V/0 (4) mA ~ 20mA voltmeter between AO2 and GND , which can be used to indicate operating frequency , output current, output voltage, etc.
X1	Multi-function input terminal 1	The factory setting is forward rotation
X2	Multi-function input terminal 2	The factory setting is reverse running
X3	Multi-function input terminal 3	The factory setting is run pause
X4	Multi-function input terminal 4	The factory setting is free parking
X5	Multi-function input terminal 5	The factory setting is no function
X6	Multifunctional input terminal six	The factory setting is no function
COM	Multi-function input terminal common ground	Common land of X1~X6 , use with X1~X6
24V,COM	Auxiliary power supply 24V output	DC power supply 24V output (≤ 50mA)

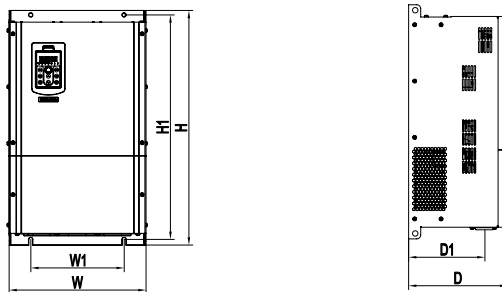
11. Mounting dimensions (mm) & weight (kg)



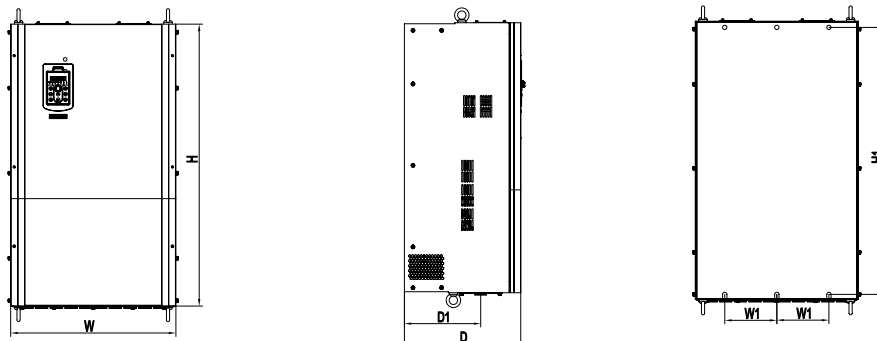
NVF2G-S-1.5/PS4 ~ NVF2G-S-11/PS4



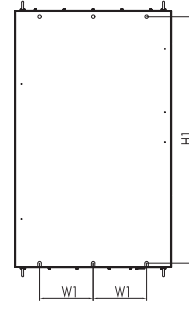
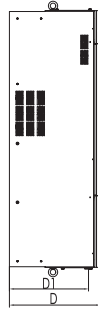
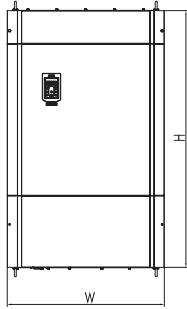
NVF2G-S ~ 11/TS4- NVF2G-S-30/PS4



NVF2G-S-30/PS4- NVF2G-S-75/PS4



NVF2G-S-75/TS4~NVF2G-S-315/PS4



NVF2G-S~315/TS4 ~-NVF2G-S-400/TS4

Terminal No.	W	H	D	W1	H1	D1	Weight (Kg)
NVF2G-S-1.5/PS4	118	187	173	107	175	110	2.4
NVF2G-S-1.5/TS4 (2.2/PS4)							
NVF2G-S-2.2/TS4 (3.7/PS4)							
NVF2G-S-3.7/TS4 (5.5/PS4)							
NVF2G-S-5.5/TS4 (7.5/PS4)							
NVF2G-S-7.5/TS4 (11/PS4)	155	247	189	140	232	125	3.6
NVF2G-S-11/TS4 (15/PS4)							
NVF2G-S-15/TS4 (18.5/PS4)	191	378	193	90	362	129	10.5
NVF2G-S-18.5/TS4 (22/PS4)							
NVF2G-S-22/TS4 (30/PS4)	215	426	213	120	407	164	15
NVF2G-S-30/TS4 (37/PS4)							
NVF2G-S-37/TS4 (45/PS4)							
NVF2G-S-45/TS4 (55/PS4)	352	603	257	240	577	197.5	34
NVF2G-S-55/TS4 (75/PS4)							
NVF2G-S-75/TS4 (90/PS4)	406	631	272	126	600	224	58
NVF2G-S-90/TS4 (110/PS4)							
NVF2G-S-110/TS4 (132/PS4)	470	807	352	150	769	226.5	108
NVF2G-S-132/TS4 (160/PS4)							
NVF2G-S-160/TS4 (185/PS4)	540	892	390	180	848	256	121
NVF2G-S-185/TS4 (200/PS4)							
NVF2G-S-200/TS4 (220/PS4)							
NVF2G-S-220/TS4 (245/PS4)	710	1020	386	250	978	284	171.5
NVF2G-S-245/TS4 (280/PS4)							
NVF2G-S-280/TS4 (315/PS4)							
NVF2G-S-315/TS4(355/PS4)	734	1200	426	250	1152	313	280
NVF2G-S-355/TS4 (400/PS4)							
NVF2G-S-400/TS4							

12. Ordering information

SAP No.	Model Description
G71154080000001	NVF2G-S-1.5/PS4
G71154080000002	NVF2G-S-2.2/PS4
G71154080000003	NVF2G-S-3.7/PS4
G71154080000004	NVF2G-S-5.5/PS4
G71154080000005	NVF2G-S-7.5/PS4
G71154080000006	NVF2G-S-11/PS4
G71154080000007	NVF2G-S-15/PS4
G71154080000008	NVF2G-S-18.5/PS4
G71154080000009	NVF2G-S-22/PS4
G71154080000010	NVF2G-S-30/PS4
G71154080000011	NVF2G-S-37/PS4
G71154080000012	NVF2G-S-45/PS4
G71154080000013	NVF2G-S-55/PS4
G71154080000014	NVF2G-S-75/PS4
G71154080000015	NVF2G-S-90/PS4
G71154080000016	NVF2G-S-110/PS4
G71154080000017	NVF2G-S-132/PS4
G71154080000018	NVF2G-S-160/PS4
G71154080000019	NVF2G-S-185/PS4
G71154080000020	NVF2G-S-200/PS4
G71154080000021	NVF2G-S-220/PS4
G71154080000022	NVF2G-S-245/PS4
G71154080000023	NVF2G-S-280/PS4
G71154080000024	NVF2G-S-315/PS4
G71154080000025	NVF2G-S-132/PS4-L
G71154080000026	NVF2G-S-160/PS4-L
G71154080000027	NVF2G-S-185/PS4-L
G71154080000028	NVF2G-S-200/PS4-L
G71154080000029	NVF2G-S-220/PS4-L
G71154080000030	NVF2G-S-245/PS4-L
G71154080000031	NVF2G-S-280/PS4-L
G71154080000032	NVF2G-S-315/PS4-L
G71154080000033	NVF2G-S-355/PS4-L
G71154080000034	NVF2G-S-400/PS4-L

SAP No.	Model Description
G711540800000035	NVF2G-S-1.5/TS4
G711540800000036	NVF2G-S-2.2/TS4
G711540800000037	NVF2G-S-3.7/TS4
G711540800000038	NVF2G-S-5.5/TS4
G711540800000039	NVF2G-S-7.5/TS4
G711540800000040	NVF2G-S-11/TS4
G711540800000041	NVF2G-S-15/TS4
G711540800000042	NVF2G-S-18.5/TS4
G711540800000043	NVF2G-S-22/TS4
G711540800000044	NVF2G-S-30/TS4
G711540800000045	NVF2G-S-37/TS4
G711540800000046	NVF2G-S-45/TS4
G711540800000047	NVF2G-S-55/TS4
G711540800000048	NVF2G-S-75/TS4
G711540800000049	NVF2G-S-90/TS4
G711540800000050	NVF2G-S-110/TS4
G711540800000051	NVF2G-S-132/TS4
G711540800000052	NVF2G-S-160/TS4
G711540800000053	NVF2G-S-185/TS4
G711540800000054	NVF2G-S-200/TS4
G711540800000055	NVF2G-S-220/TS4
G711540800000056	NVF2G-S-245/TS4
G711540800000057	NVF2G-S-280/TS4
G711540800000058	NVF2G-S-110/TS4-L
G711540800000059	NVF2G-S-132/TS4-L
G711540800000060	NVF2G-S-160/TS4-L
G711540800000061	NVF2G-S-185/TS4-L
G711540800000062	NVF2G-S-200/TS4-L
G711540800000063	NVF2G-S-220/TS4-L
G711540800000064	NVF2G-S-245/TS4-L
G711540800000065	NVF2G-S-280/TS4-L
G711540800000066	NVF2G-S-315/TS4-L
G711540800000067	NVF2G-S-355/TS4-L
G711540800000068	NVF2G-S-400/TS4-L

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