

## **GD200A Series General Purpose** Vector Control Drive Product Introduction

GD200A series high performance general vector inverter, positioned as a new generation general purpose inverter; products using DSP control system and vector V/F control technology, with excellent motor drive performance and various protecting functions, widely used in air compressor, plastic machine, petroleum industry, coal industry, HVAC applications, fan pump and other standard transmission load.



High performance

- Multi-function with simple operation
- Reliable quality certificated



# High Performance

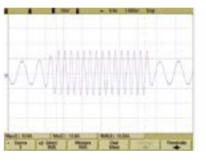
### More Accurate Motor Autotuning

Accurate rotating and static motor autotuning Convenient debugging and easy operation

Rotating autotuning	
De-couple form the load	No
Applied to the situation with high control accuracy	App

### Advanced open loop vector control

The current, torque and rotating speed waveforms when sudden loading or unloading in asynchronous motor open loop vector control mode with 0.5Hz running frequency and full load.





Current

- Perfect voltage and current control, reducing the fault protection times



Adjust the output frequency to avoid overcurrent of the inverter during acceleration

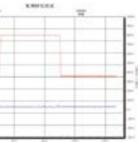
Multiple braking modes and instant stopping

- Configure braking units and resistors • Available on the situation of big inertia
- load and frequent braking
- Big braking torque and quick braking

### Flux braking

- No need to configure braking units and resistors • Available on the instant stopping situation with
- big inertia load and no frequent bra king • Not available on the situation of big inertia load and frequent and braking(the energy consumed on the stator and its cooling is better than DC braking)

o need to de-couple from the load pplied when rotating autotuning is not available



Torque & Rotating speed



Adjust the output frequency to avoid overvoltage of the DC bus during deceleration

### DC braking

• No need to configure braking units and resistors Available on the situation when start the running motor after braking and the situation when keep the moment output after braking to zero speed Not available on the situation of big inertia load or instant stopping braking in high speed running

• No need to configure braking units and resistors, capable of braking quickly

- · Applicable to the motors at quick start and stop or restart after braking
- Not applicable to big inertia load and frequent braking

## Multi-Function with Simple Operation

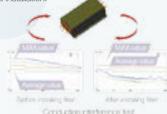
### Separate Air-duct

The separate air duct prevents the contaminants into the electronic parts/components and greatly improves the protective effect of the inverter, as well as its reliability and service life, to adapt various complicated site environments. It can also facilitate the heat-releasing in control cabinets and the heat-releasing design of the customer.



• Standard built-in C3 input filters, optional external C2 filters

C3 input filter is embedded in the factory to meet different application requirements, save installation space and avoid electromagnetic interference caused by incorrect selection and site installation.



Remarks: C2 filter: EMC performance of the inverter achieves the limited usage requirement in civil environment. C3 filter: EMC performance of the inverter achieves the limited usage requirement in civil environment.

# • The rivet design ensures reliable integration connection

Greener Proper grounding Stronger corrosion-resistance Excellent EMC performance



### GD200A series

Membrane keypad design (which can be connected to external keypads) is available for inverters (≤15kW); swappable keypads are standard for inverters (≥18.5kW)



## • Multiple installation modes

0.75~200kW: Wall mounting and flange mounting 200~315kW: Wall mounting and floor mounting 350~500kW: Floor mounting Remark: above power ratings are subject to G type machine.

Book structure

### Parallel installation Smaller installation space with less cost and beautiful appearance.



### Smaller Size

Due to the thermal simulation and advanced modularized design, the size of our product is reduced greatly. The width ratio between Goodrive300 and CHF100A is shown in the figure below (the Max. percentage is 50%)



	Quantity	
ON-OFF input	8 channels	1KHz NPN and PNP
High speed	0.75	9.3
Pulse input	1 channel	50KHz NPN and PNP
Analog input	2 channels	0~10V,0~20mA, -10V~+10V
ON-OFF output	1 channel	Max. output frequentcy:1KHz
High speed	1.5	5.0
Pulse output	1 channel	Max. output frequentcy:50KHz
Analog output	2 channels	0~10V,0~20mA
Relay output	2 channels	3A/250DAC, 1A/30VDC, NO+NC

## • High Performance Keypad

External LED keypads are standard for inverters (≥18.5kW) to support parameters upload and download, the maximum external length is 200M and the keypads have digital potentiometers; external keypads are optional for inverters (≤15kW).





External keypad LCD keypad The optional external LCD keypad supports parameters loading and unloading with English.

## Embedded braking units of 0.75-30kW inverters

Reduce the occupied space and decrease the costsign of the customer.



## • Supporting common DC bus

Reduce the power lost on DBR Note the impact current and the capacity of the input AC system



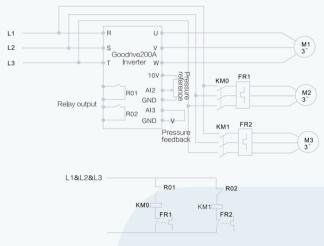


## • Available on DC power supply

Reduce the occupied space and decrease the costsign of the customer.



## • Function of water supply

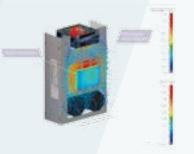


In the diagram above, M2 and M3 are auxiliary motors which are controlled by RO1 and RO2. PID constant-pressure automatic control system is formed by the inverter through pressure feedback. The pressure reference can apply analog or keypad input. 485 remote communications is also supported.

• The product design follows IEC national standards and passes the CE test certification.



Remarks: Each Goodrive200A inverter has past the test certification  Advanced thermal technology makes exact thermal design



• Wide voltage range meets the requirement of grid environment



AC 3PH:380V(-15%)-440V(+10%) Wide voltage range

• Perfect and reliable test system ensure products adapt complicated site environments

Experiment type	Experiment name	Classification			
		Package compression experiments			
		Package resonance imaging and storage test			
		Package random vibration test			
	Package experiments	Package dropping test			
		Package rolling test			
Mechanical reliability experiments		Package dumping test			
oxponnonto		Package inclined impact test			
	Impact test	Half-sine wave impulse test(non-working state)			
	impactiest	Trapezoidal wave impulse test (non-working state)			
	Vibration test	Sinusoidal vibration test (working state)			
	VIDIATION LEST	Random vibration test (working and non-working state)			
Climatic environmental reliability test		Low temperature storage test			
	Temperature experiment	High temperature storage test			
		Low temperature experiments			
		High temperature experiments			
		Temperature gradient experiments			
		Temperature impact test			
Climatic environmental	Thermal test	Constant thermal test			
reliability test	mermartest	Alternation thermal test			
	Salt spray test	Constant salt spray test			
	Sait spray test	Alternation salt spray test			
		Low Air Pressure Test			
	Low air pressure test	Low temperature and low pressure test			
		High temperature and low pressure test			

Remarks:

INVT is the only manufacturer achieved ACT certificate of TÜV SÜD . The full name of ACT is Acceptance of Client's Testing, which means the German TÜV SÜD admit the technology level of the lab and accept their separate testing data and test reports officially.



Electric Vibration System



Low Pressure Test Chamber (L) Constant Temperature and Humidity Test Chamber (R)



Natural Convection Test Chamber (L) Thermal Shock Test Chamber (R)

# Main Applications



Air compressor



Warming and water supply



Mining





Oil industry



Plastics machine

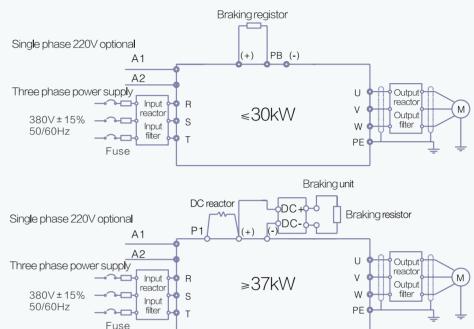


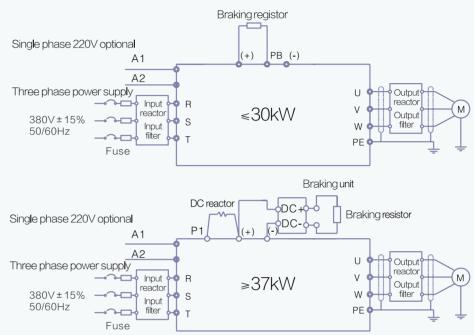
Fans and water pumps

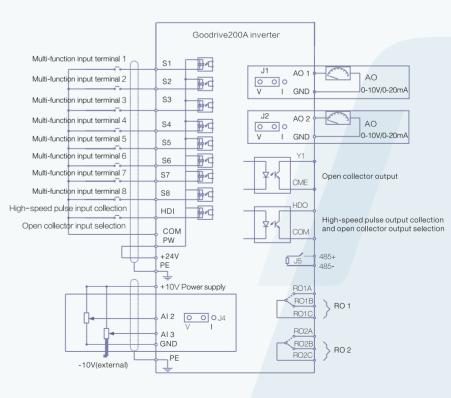
# / Technical Specifications

	Function	Illustration
	Input voltage (V)	AC 3PH 400V±15%
Input	Input current (A)	Refer to the rated value
	Input frequency (Hz)	50Hz or 60Hz Allowed range: 47~63Hz
Output	Output voltage (V)	0~input voltage
Oulpul	Output frequency (Hz)	0~400Hz
	Control mode	V/F
	Motor type	Asynchronous motor
	Speed ratio	Asynchronous motor 1:100
Technical control feature	Overload capability	G type: 150% of rated current: 1 minute 180% of rated current: 10 seconds 200% of rated current: 1 second P type: 120% of rated current: 60 second
	Torque overload capacity	G type: 150% for machines 180 % for quick response machines P type: 120% for pump and fan
	Frequency setting	Digital setting, analog setting, pulse frequency setting, multi-step speed running setting, simple PLC setting, PID setting, MODBUS communication setting, PROFIBUS communication setting. Realize the shifting between the set combination and set channel.
Running control feature	Auto voltage adjustment	Keep a stable voltage automatically when the grid voltage transients
lealure	Fault protection	Provide over 30 fault protection functions: overcurrent, overvoltage, undervoltage, overheating, phase loss and overload, etc.
	Speed tracking	Restart the rotating motor smoothly
	Terminal analog input resolution	≤10mV
	Terminal switch input resolution	≤ 2ms
	Analog input	2 channels (AI1, AI2) 0~10V/0~20mA and 1 channel (AI3) -10~10V
	Analog output	2 channels (AO1, AO2) 0~10V /0~20mA
Peripheral interface	Digital input	8 channels common input, the Max. frequency: 1kHz 1 channel high speed input, the Max. frequency: 50kHz
	Digital output	1 channel high speed pulse output, the Max. frequency: 50kHz; 1 channel Y terminal open collector pole output
	Relay output	2 channels programmable relay output RO1A NO, RO1B NC, RO1C common terminal RO2A NO, RO2B NC, RO2C common terminal Contactor capability: 3A/AC250V,1A/DC30V
	Mountable method	Wall, flange and floor mountable
	Temperature of the running environment	-10~50°C, derate above 40°C
	Ingress protection	IP20
Others	Cooling	Air-cooling
	Braking unit	Built-in braking unit for below 30G/37P (including 30G/37P) External braking unit for others
	Braking resister	External braking
	EMC filter	Optional built-in C3 filter: meet the degree requirement of IEC61800-3 C3 Optional external filter ,meet the degree requirement of IEC61800-3 C2

## Standard Wiring







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# **/** Type Selection

Inverter model	Rated output power (kW)	Input current (A)	Rated output current (A)	Gross weight (Kg)	Dimension (mm)						
3-phase 220VAC±15%											
GD200A-0R75G-2	0.75	4.5									
GD200A-1R5G-2	1.5	7.7	7	4.1kg	360x250x265						
GD200A-2R2G-2	2.2	11	10	-							
GD200A-004G-2	3.7	17	16								
GD200A-5R5G-2	5.5	21	20	7.4kg	445x295x320						
GD200A-7R5G-2	7.5	31	30								
GD200A-011G-2	11	43	42	4.41	FF0.075.075						
GD200A-015G-2	15	56	55	11kg	550x375x375						
GD200A-018G-2	18.5	71	70								
GD200A-022GP-2	22	81	80	32kg	695x410x470						
GD200A-030G-2	30	112	110								
GD200A-037G-2	37	132	130								
GD200A-045G-2	45	163	160	67kg	760x445x580						
GD200A-055G-2	55	181	190								
		3-phase 380	VAC±15%								
GD200A-0R75G-4	0.75	3.4	2.5								
GD200A-1R5G-4	1.5	5.0	3.7	2.5kg	275 x205 x235						
GD200A-2R2G-4	2.2	5.8	5								
GD200A-004G/5R5P-4	4/5.5	13.5/19.5	9.5/14	4.1kg	360 x250 x265						
GD200A-5R5G/7R5P-4	5.5/7.5	19.5/25	14/18.5	4.1kg	300 x230 x203						
GD200A-7R5G/011P-4	7.5/11	25/32	18.5/25								
GD200A-011G/015P-4	11/15	32/40	25/32	7.4kg	445 x295 x320						
GD200A-015G/018P-4	15/18.5	40/47	32/38								
GD200A-018G/022P-4	18.5/22	47/56	38/45	9kg	460 x340 x330						
GD200A-022G/030P-4	22/30	56/56	45/60	441-5	FF0 075075						
GD200A-030G/037P-4	30/37	70/80	60/75	11kg	550 x375x375						
GD200A-037G/045P-4	37/45	80/94	75/92								
GD200A-045G/055P-4	45/55	94/128	92/115	32kg	695 x410x470						
GD200A-055G/075P-4	55/75	128/160	115/150								
GD200A-075G/090P-4	75/90	160/190	150/180								
GD200A-090G/110P-4	90/110	190/225	180/215	67kg	760 x445 x580						
GD200A-110G/132P-4	110/132	225/265	215/260								
GD200A-132G/160P-4	132/160	265/310	260/305								
GD200A-160G/200P-4	160/200	310/385	305/380	110kg	971 x631 x565						
GD200A-200G/220P-4	200/220	385/430	380/425								
GD200A-220G/250P-4	220/250	430/485	425/480								
GD200A-250G/280P-4	250/280	485/545	480/530								
GD200A-280G/315P-4	280/315	545/610	530/600	165kg	1086x826x595						
GD200A-315G/350P-4	315/350	610/625	600/650								
GD200A-350G/400P-4	350/400	625/715	650/720								
GD200A-400G-4	400	715	720	450kg	1850x840x820						
GD200A-500G-4	500	890	860	3	1000/040/020						

### Remarks:

(1)The input current of the inverter 0.75G-315G/350P is tested when the input voltage is 380V and there is no DC reactor and output/input reactor.
(2)The current of the inverter 350G/400P-500G is tested when the input voltage is 380V and there is input reactor.
(3)Rated output current is defined when the rated output voltage is 380V.

Installation Dimension

Installation dimension when wall mounting Installation dimension (unit: mm)									
Мо	W1	W2	H1	H2	D1	Installation holes			
	0.75kW~2.2kW	146	131	256	243.5	181	6		
	4kW~7.5kW	170	151	320	303.5	216	6		
3-phase 220VAC Series	11kW~15kW	255	237	407	384	245	7		
001100	18.5kW ~30kW	270	130	555	540	325	7		
	37kW~55kW	325	200	680	661	365	9.5		
	0.75kW~2.2kW	126	115	186	175	174.5	5		
	4kW~5.5kW	146	131	256	243.5	181	6		
	7.5kW~15kW	170	151	320	303.5	216	6		
	18.5kW	230	210	342	311	216	6		
3-phase 380VAC Series	22kW~30kW	255	237	407	384	245	7		
001100	37kW~55kW	270	130	555	540	325	7		
	75kW~110kW	325	200	680	661	365	9.5		
	132kW~200kW	500	180	870	850	360	11		
	220kW~315kW	680	230	960	926	379.5	13		

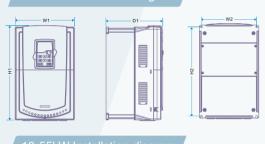
Installation dimension (unit: mm)												
Inve	erter model	W1	W1	W3	W4	H1	H2	H3	H4	D1	D2	Installation holes
	0.75kW~2.2kW	170.2	131	150	9.5	292	276	260	6	167	84.5	6
3-phase	4kW~7.5kW	191.2	151	174	11.5	370	351	324	15	196.3	113	6
220VAC series	11kW~15kW	275	237	259	11	445	426	404	10	245	119	7
Series	18.5kW ~30kW	270	130	261	11	445	426	404	10	245	119	7
	37kW~55kW	325	200	317	58.5	680	661	626	23	363	182	9.5
	0.75kW~2.2kW	150.2	115	130	7.5	234	220	190	13.5	155	65.5	5
	4kW~5.5kW	170.2	131	150	9.5	292	276	260	6	167	84.5	6
	7.5kW~15kW	191.2	151	174	11.5	370	351	324	15	196.3	113	6
3-phase 380VAC	18.5kW	250	210	234	12	375	356	334	10	216	108	6
series	22kW~30kW	275	237	259	11	445	426	404	10	245	119	7
	37kW~55kW	270	130	261	11	445	426	404	10	245	119	7
	75kW~110kW	325	200	317	58.5	680	661	626	23	363	182	9.5
	132kW~200kW	500	180	480	60	870	850	796	37	358	178.5	11

Installation dimension w	hen floor i	mounting					Ins	stallation dir	nension (unit: mm)
Inverter model	W1	W1	W3	W4	H1	H2	D1	D2	Installation holes
220kW~315W	750	230	714	680	1410	1390	380	150	13\12
350kW~500kW	620	230	553	-	1700	1678	560	240	22\12

# Installation Diagram

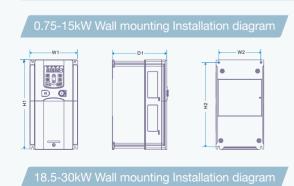
3-phase 220VAC Series
 Wall Mounting for 0.75-55kW Inverters

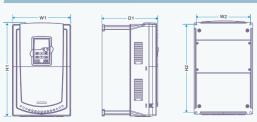


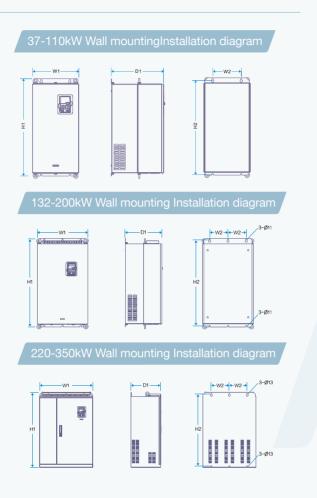




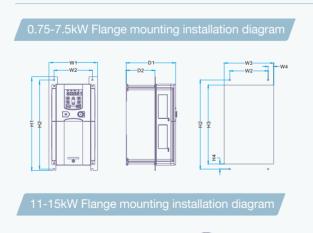
3-phase 380VAC Series
 Wall Mounting for 0.75-315kW Inverters

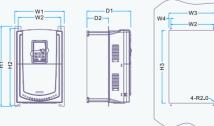






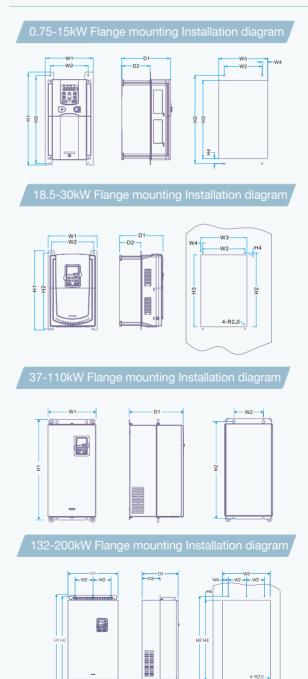
3-phase 220VAC Series
 Flange Mounting for 0.75-55kW Inverters

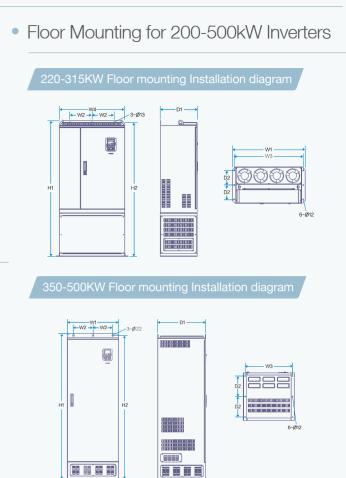




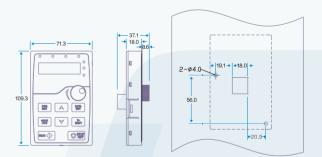


3-phase 380VAC Series
 Flange Mounting for 0.75-200kW Inverters





• Dimension for Keyboard



### GD20&GD200A Series Vector General General Purpose Vector Drive

# **Optional Parts**

• Flange Mounting Panel



Remarks: C2 standard can be achieved of select above external filters

G:500KW

Installation Base

Only optional in 220G/250P-315G/350P inverters .lts bases can be built in an input AC (or DC) reactor or an

Inverter needs to derate when selecting a cover Consult with the INVT technicians for the detailed information.

• AC single-phase 220V input auxiliary

FLT-L041000L-B

FLT-P041000L-B

### Reactor

The inverters of 37G/45P and above can be connected with external DC reactor. The reactor can improve the power factor and avoid damage to the recitifier bridge caused by overcurrent and damage to the rectifier circuit by harmonic

Inverter model	Input reactor	DC reactor	Output reactor
GD200A-0R7G-4	ACL2-1R5-4	/	OCL2-1R5-4
GD200A-1R5G-4	ACL2-1R5-4	/	OCL2-1R5-4
GD200A-2R2G-4	ACL2-2R2-4	1	OCL2-2R2-4
GD200A-004G/5R5P-4	ACL2-004-4	/	OCL2-004-4
GD200A-5R5G/7R5P-4	ACL2-5R5-4	/	OCL2-5R5-4
GD200A-7R5G/011P-4	ACL2-7R5-4	/	OCL2-7R5-4
GD200A-011G/015P-4	ACL2-011-4	/	OCL2-011-4
GD200A-0115G/018P-4	ACL2-011-4	/	OCL2-011-4
		/	
GD200A-018G/022P-4	ACL2-018-4		OCL2-018-4
GD200A-022G/030P-4	ACL2-022-4	1	OCL2-022-4
GD200A-030G/037P-4	ACL2-030-4		OCL2-030-4
GD200A-037G/045P-4	ACL2-037-4	DCL2-037-4	OCL2-037-4
GD200A-045G/055P-4	ACL2-045-4	DCL2-045-4	OCL2-045-4
GD200A-055G/075P-4	ACL2-055-4	DCL2-055-4	OCL2-055-4
GD200A-075G/090P-4	ACL2-075-4	DCL2-075-4	OCL2-075-4
GD200A-090G/110P-4	ACL2-090-4	DCL2-090-4	OCL2-090-4
GD200A-110G/132P-4	ACL2-110-4	DCL2-110-4	OCL2-110-4
GD200A-132G/160P-4	ACL2-132-4	DCL2-132-4	OCL2-132-4
GD200A-160G/185P-4	ACL2-160-4	DCL2-160-4	OCL2-160-4
GD200A-185G/200P-4	ACL2-200-4	DCL2-200-4	OCL2-200-4
GD200A-200G/220P-4	ACL2-200-4	DCL2-200-4	OCL2-200-4
GD200A-220G/250P-4	ACL2-250-4	DCL2-250-4	OCL2-250-4
GD200A-250G/280P-4	ACL2-250-4	DCL2-250-4	OCL2-250-4
GD200A-280G/315P-4	ACL2-280-4	DCL2-280-4	OCL2-280-4
GD200A-315G/350P-4	ACL2-315-4	DCL2-315-4	OCL2-315-4
GD200A-350G/400P-4	standard configuration	DCL2-350-4	OCL2-350-4
GD200A-400G-4	standard configuration	DCL2-400-4	OCL2-400-4
GD200A-500G-4	standard configuration	DCL2-500-4	OCL2-500-4

## Braking system

The power of 30G/37P(including) for GD200A inverters built-in barking unit, and 37G/45P(including) inverters need external braking unit; please choosing the resister and power of braking torque of inverters builden barking unit, and or or 40 (including) inverters need external braking unit, Braking resister can increase braking torque of inverter, In the table it designs the resister power according to 100% braking torque, 10% braking count,50% braking count,80% braking count; and customers can choose braking system according to specific process and work condition.

Inverter model	braking unit model	100%braking torque fit braking resisters(Ω)	power of braking resister(kW) (10% braking count)	power of braking resister(kW) (50% braking count)	power of braking resister(kW) (80% braking count)	allowing minimum braking resister(Ω)
GD200A-0R7G-4		653	0.1	0.6	0.9	240
GD200A-1R5G-4		326	0.23	1.1	1.8	170
GD200A-2R2G-4		222	0.33	1.7	2.6	130
GD200A-004G/5R5P-4		122	0.6	3	4.8	80
GD200A-5R5G/7R5P-4		89	0.75	4.1	6.6	60
GD200A-7R5G/011P-4	built-in braking unit	65	1.1	5.6	9	47
GD200A-011G/015P-4		44	1.7	8.3	13.2	31
GD200A-015G/018P-4		32	2	11	18	23
GD200A-018G/022P-4		27	3	14	22	19
GD200A-022G/030P-4		22	3	17	26	17
GD200A-030G/037P-4		16	5	23	36	17
GD200A-037G/045P-4	DBU100H-060-4	13	6	28	44	11.7
GD200A-045G/055P-4		10	7	34	54	
GD200A-055G/075P-4	DBU100H-110-4	8	8	41	66	6.4
GD200A-075G/090P-4		6.5	11	56	90	
GD200A-090G/110P-4	DBU100H-160-4	5.4	14	68	108	4.4
GD200A-110G/132P-4	DB0100H-160-4	4.5	17	83	132	4.4
GD200A-132G/160P-4	DBU100H-220-4	3.7	20	99	158	3.2
GD200A-160G/185P-4		3.1	24	120	192	
GD200A-185G/200P-4	DBU100H-320-4	2.8	28	139	222	2.2
GD200A-200G/220P-4		2.5	30	150	240	
GD200A-220G/250P-4	DBU100H-400-4	2.2	33	165	264	1.8
GD200A-250G/280P-4	0001000-400-4	2.0	38	188	300	1.0
GD200A-280G/315P-4		3.6*2	21*2	105*2	168*2	
GD200A-315G/350P-4	Two DBU100H-320-4	3.2*2	24*2	118*2	189*2	2.2*2
GD200A-350G/400P-4		2.8*2	27*2	132*2	210*2	
GD200A-400G-4	Two	2.4*2	30*2	150*2	240*2	1.8*2
GD200A-500G-4	DBU100H-400-4	2*2	38*2	186*2	300*2	1.0 2





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