Option

Various accessories to back up jacks

12

Geared
Limit Switch

Geared Limit Switch

Features

● Two types of geared limit switches are available: the standard ME type, and S type without a terminal block.
● The stop position can be set at one touch of a large button. The reproducibility error is plus/minus 10 degrees to the input rotation angle.
● Similarly, it is easy to cancel the setting or change the stop position.
● Due to the unique and rational structure, the geared limit switch works reliably, has superior durability, and realizes smooth rotation.
● Adopting the enclosed construction, the geared limit switches are compact and easy to install.
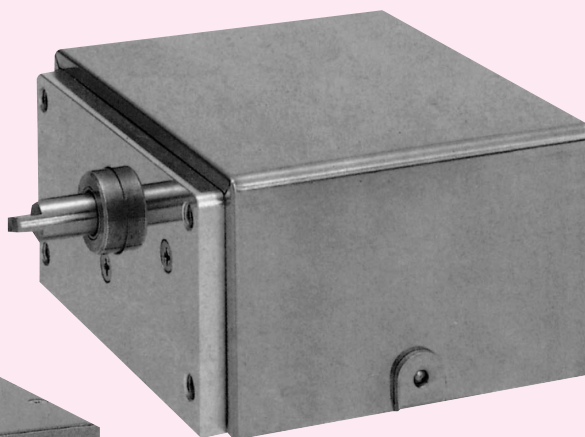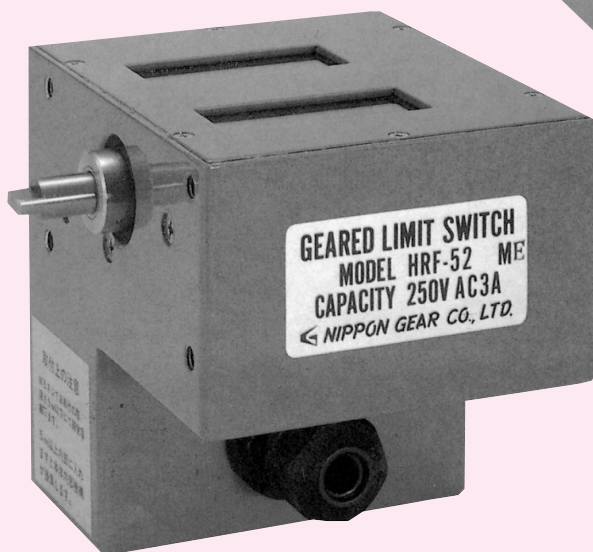
Model Code

HRF — 52 ME

ME: standard model with the terminal block
S: Lead wire model

52: 2-train, 522: 4-train (As for S type, 2-train only)

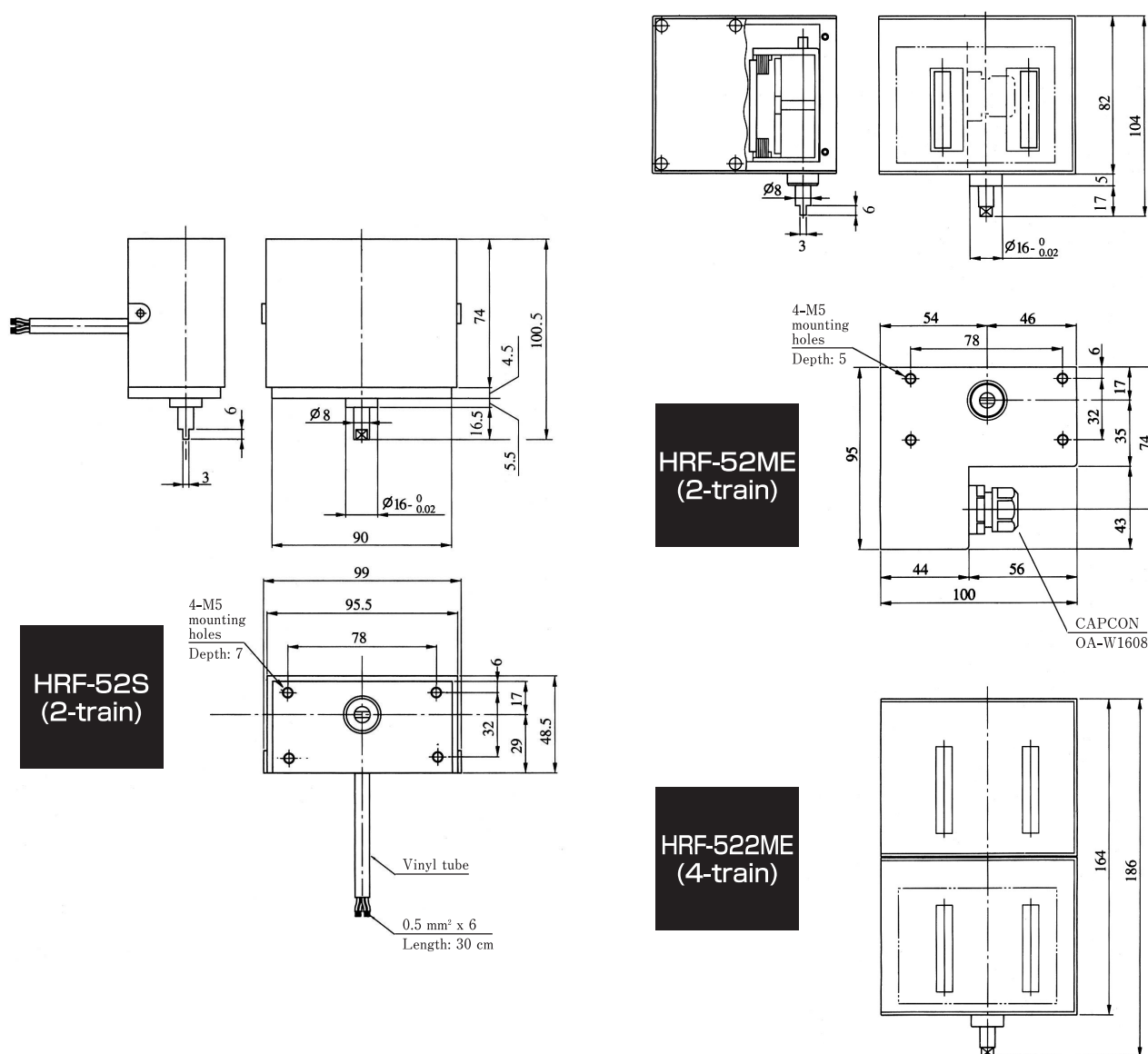Geared limit switch

S type geared limit switch

GEARED LIMIT SWITCH
MODEL HRF-52 ME
CAPACITY 250V AC3A
◁ NIPPON GEAR CO., LTD.

ME type geared limit switch

Specifications

Type	S type	ME type	
Function	2-train	2-train	4-train
Model number	HRF–52S	HRF–52ME	HRF–522ME
Weight	0.6kg	0.8kg	1.6kg
Interval	From 1 to 9999 revolutions		
Main shaft maximum allowable rotation speed	$1800min^{-1}$		
Count gear	5 digits (First gear 0.75 revolutions per main shaft rotation)		
Stop position setting	Alignment type, one-touch clutch open		
Electrical rating	AC250V;3A DC125V;0.4A		
Ambient temperature for use	–20 to +80℃		
	——	Dust-proof/moisture-proof sealing	

If there is impact vibration, or if the geared limit switch is used under small current-voltage load conditions (1~100mA, 5~30V), please contact us for inquiry.

Dimensions

HRF-52ME
(2-train)

CAPCON
OA–W1608

HRF-52S
(2-train)

Vinyl tube

0.5 mm² x 6
Length: 30 cm

4–M5 mounting holes
Depth: 7

4–M5 mounting holes
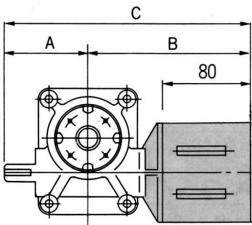Depth: 5

HRF-522ME
(4-train)

12 Option

Geared
Limit Switch

Geared Limit Switch

When installing a geared limit switch, please do not push/pull the input shaft of the geared limit switch.
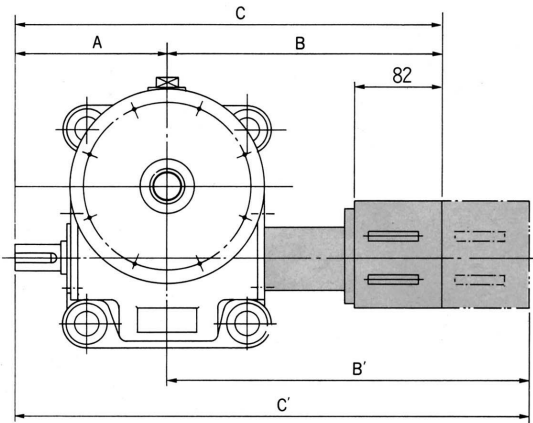Otherwise, it may cause malfunction.

Installation method

■S type

Series code	A	B 2-train	C 2-train
RMG·RMS·RMY	60	134	194
RSG·RSB·RSF·RSS·RSY	75	149	224

* For small jacks, unless otherwise specified,
  S type will be attached.

■ME type

| Series code	A	B 2-train	B' 4-train	C 2-train	C' 4-train
RMG·RMS·RMY	60	136	218	196	278
RSG·RSB·RSF·RSS·RSY	75	151	233	226	308
J0G·J0B·J0F	85	193	275	278	360
J1G·J1B·J1F	90	202	284	292	374
J2G·J2B·J2F	115	227	309	342	424
J3G·J3B·J3F	140	253	335	393	475
JGA	145	257	339	402	484
J4A·J4B·J4F	150	262	344	412	494
J5A·J5B	180	290	372	470	552
J6A·J6B	279	392	474	671	753
JFA·JFB	300	412	494	712	794
J7A·J7B	305	423	505	728	810
JMR	63	139	221	202	284
JSR	95	206	288	301	383

Mounting direction symbols

When placing an order of geared limit switches, please specify the location and setting direction by using the
following symbols. Regardless of whether jacks are upright or inverted models, when the direction of jack cases are
the same, the same symbols are used. If you do not specify the symbol, we will deliver the standard model RF. (For
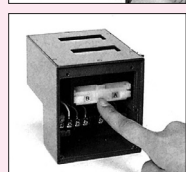S type, RD is the standard model.)
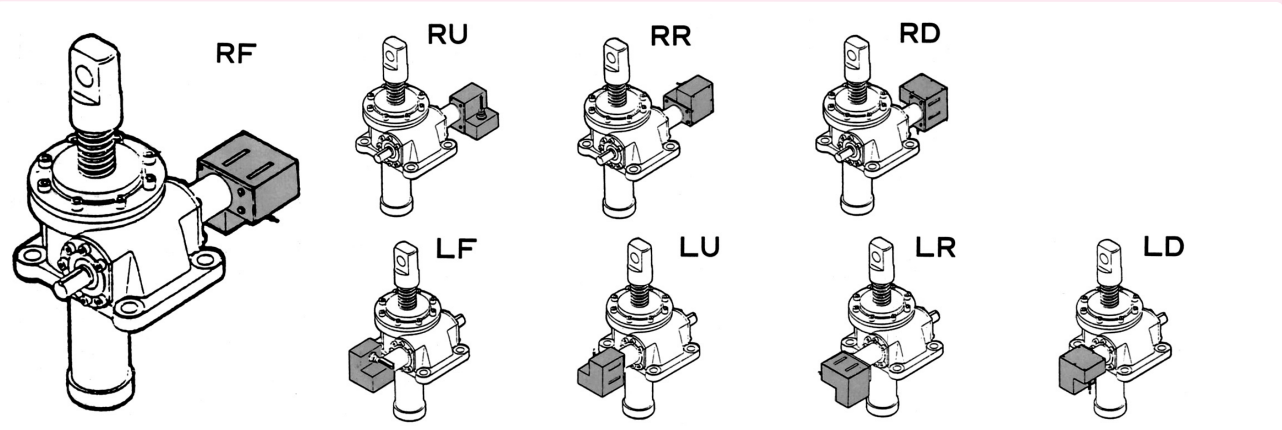
As for S type, similarly to the above, the same symbols are used to indicate the direction of "lead wires".
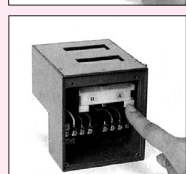
Geared Limit Switch Setting Procedure　(Not preset at the factory)
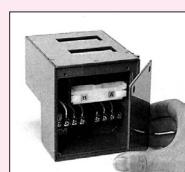
1 Remove the cover.

2 Push and slide up the center of the stopper plate.
⇒It becomes possible to push the setting buttons.

3 Push and slide up the setting button "A" to the lock position.⇒The clutch engagement is released, resulting in the free state of the internal gear. Make sure that the white lines of the internal gear in the display window are aligned. If not, the geared limit switch is not set properly, so please repeat the above-mentioned procedure by using the setting button "A".
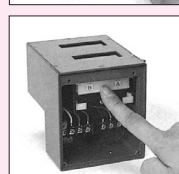
4 Turn on the jack, and make the jack move to the setting position.
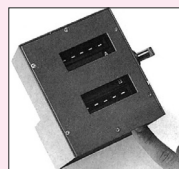
5 When it reached the setting position, turn off the jack, and make sure once again that the white lines in the display windows are aligned.⇒If they are not aligned, turn the setting button back to the original position, and push it again to make the white lines aligned.
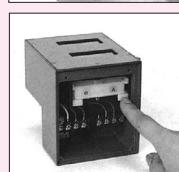
6 Turn the setting button "A" to the original position to complete the setting of the side "A".

7 Check the operation. Put the jack slightly back, and make it move to the setting position again. Then the limit switch starts operating.
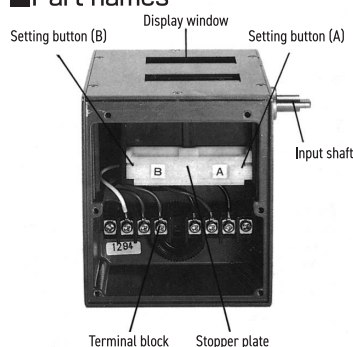
8 Set the button "B" in the similar procedure.

9 Upon checking the operation of both "A" & "B", put the stopper plate back, and lock the setting buttons.

10 Put the cover back.

Notes:
1. The standard switch action is as shown in Figure 1. This is because the operating direction of the switch is determined by the rotation direction of the input shaft. (as per No. 1 of Figure 2) Please note that, if you use it in the opposite direction to that indicated in Figure 1, the action and position setting will also be opposite to what is shown in Figure 2. In case of 4-train types, you can set 4 positions from (A) to (D); however, they are constructed in a way to connect two 2-train types in series, so the setting procedure is the same as that for 2-train types.The movement of the internal cam is "(C)=(A), (D)=(B)". Set (C) and (D) at the midpoint.
2. Photos and Figures show illustrative examples of ME type, but S type is basically the same.
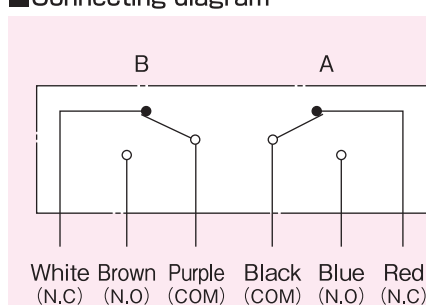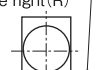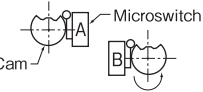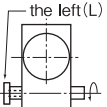
■Part names

Setting button (B)　Display window　Setting button (A)

Input shaft

Terminal block　Stopper plate

■Connecting diagram

B　　　　A

White	Brown	Purple	Black	Blue	Red
(N.C)	(N.O)	(COM)	(COM)	(N.O)	(N.C)
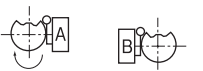
■Figure 1.　Switch Action

Terminal		B			A			Input shaft rotation direction (viewed from the input shaft end)
		Limit action terminal	Pilot terminal	Common terminal	Common terminal	Pilot terminal	Limit action terminal	
Color	White	Brown	Purple	Black	Blue	Red		
Action				Operating Range				CW / CCW

■Figure 2.　Action and Position Setting

No.	Geared limit switch type	Position of attaching geared limit switch against jack	Position setting and setting range	State of cam at middle position	Microswitch action and wiring plan Note 1. ── : Connect ┄┄ : Disconnect			
1	2-train	Attached to the right (R) — Ascending when it rotates in the direction indicated by an arrow (CW)	• When it reaches the setting position: The cam is separated from the switch. • During operation: The cam presses the switch. • Setting range: Input rotation speed Max. 9999 rev. Between B and D, as well as C and A for 4-train type Max. 2665 rev. B　D　C　A	Microswitch A B Cam B: N.C N.O C / A: C N.O N.C White Brown Purple / Black Blue Red	Microswitch number	ⒷB		ⒶA
					Color of lead wire	White/Purple	Brown/Purple	Blue/Black	Red/Black
					Contact point when the cam is working	Disconnect	Connect	Connect	Disconnect
					Setting position for ascending / Setting position for descending				
2	2-train	Attached to the left (L) — Ascending when it rotates in the direction indicated by an arrow (CCW)		A B B: N.C N.O C / A: C N.O N.C White Brown Purple / Black Blue Red	Microswitch number	ⒷB		ⒶA
					Color of lead wire	White/Purple	Brown/Purple	Blue/Black	Red/Black
					Contact point when the cam is working	Disconnect	Connect	Connect	Disconnect
					Setting position for ascending / Setting position for descending				

RC Encoder

RC Encoder

Construction and Features

Gear counter — — Optical chopper
— Photo interrupter
O-ring —
— Corrosion-resistant aluminum case
Bearing —

Oil seal —
Oilless metal bearing —
24-core parallel output
(pigtail example)
Signal-processing board
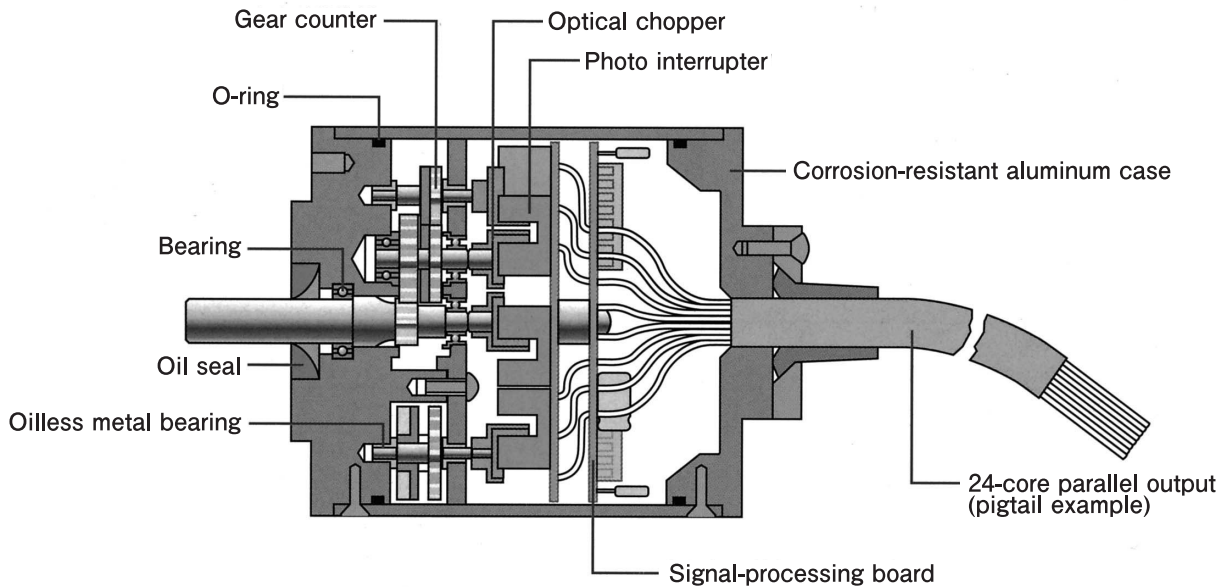
Converting rotation amounts into binary signals in a simple way	The encoder gets binary signals, through the optical switch, from the detecting axis corresponding to a necessary number of bits. As the binary code, the encoder adopted Gray code, which has superior stability. According to customer needs, the encoder can also provide pure binary and BCD outputs.
Multi-turn absolute encoder	The encoder can be connected directly with the input shaft, without a speed changing mechanism. (Maximum allowable rotation speed: 1800 min-1). The original point is not preset at the factory.
Counting without power supply	The encoder consists of the counting mechanism that uses special gears, and the position signal output mechanism that uses an optical switch; and the counting mechanism mechanically works without power supply. It keeps counting even during power outage, and outputs precise position data immediately upon power recovery. In addition, it is not affected by exogenous noises.
Supporting wide-ranged count settings	You can flexibly combine the number of counts per turn and the effective rotation speed, within the range of bit numbers (total count amount). As a number of counts per turn can be a number with a decimal point, the encoder easily meets such needs as detecting an angle of rotation, and detailed control over moving equipment.
Excellent vibration-resistant and shock-resistant performance	The optical chopper, which supports various bits, rotates and outputs binary signals. The detection angles are as large as 1/2 and 1/4, and the encoder is designed not to stop at the middle position due to intermittent motion. Accordingly, it can be turned on/off with accuracy, and is resistant to malfunctioning attributable to vibration or shock.

Code Number

R	C	1	2	–	2	5	6	CT	–	2	G	P	S	S
1					2					3	4	5	6	7

RC	RC encoder (parallel output)	
1	Resolution	Output bit number (12、14、16)
2	CT number	Number of counts per turn (Note 1)
		0.5~512CT
3	Power source voltage	O	5V
		1	12V
		2	24V
4	Output signal code	G	Gray binary code
		B	Pure binary code
		D	BCD code
5	Logic	P	Positive logic
		N	Negative logic
6	Connector	S	Standard connector
		P	Pigtail
		T	Environment-resistant connector
7	Connecting orientation	S	Standard (in the rear)
		R	Lateral

H	R	2	0	–	2	5	6	CT	–	2	G	N	L	S	S
1					2					3	4	5	6	7	8

HR	Hybrid high resolution encoder (parallel output)	
1	Resolution	Output bit number (18, 20)
2	CT number	Number of counts per turn (Note 2)
		128~1024CT
3	Power source voltage	O	5V
		1	12V
		2	24V
4	Output signal code	G	Gray binary code
		B	Pure binary code
		D	BCD code (Note 5)
5	Logic	P	Positive logic
		N	Negative logic
6	Wiring method	L	Latch
		S	Strobe
7	Connector	S	Standard connector
		P	Pigtail
		T	Environment-resistant connector
8	Connecting orientation	S	Standard (in the rear)
		R	Lateral

Standard Specifications

		RC12	RC14	RC16	HR18	HR20
Detecting method		Optical Light source: GaAs infrared-emitting diode (ILED) Optical receiver: Photodiode				
Bit number		12	14	16	18	20
Number of counts per turn		0.5~512CT (Note 1)			128~1024CT (Note 2)	
Output	Direction of signal increase	Clockwise (standard)				
	Configuration	Open collector				
	Signal code	Gray binary, pure binary, BCD codes (Note 5)				
	Logic	Positive logic, negative logic (Note 3)				
	Allowable voltage	DC30V				
	Allowable sink current	30mA				
	Residual voltage	No more than 0.4V				
Output connector	Parallel output	Standard connector, pigtail, environment-resistant connector *Lateral connection possible				
Voltage	Voltage	DC5V, DC12V, DC24V				
	Allowable range of voltage	DC5V: plus/minus 5%, DC12V, DC24V: plus/minus 10%				
	Allowable ripple	No more than 5%				
Consumption current	DC5V	110mA	130mA	150mA	210mA	230mA
	DC12V	140mA	160mA	180mA	250mA	270mA
	DC24V	140mA	160mA	180mA	250mA	270mA
Allowable rotation speed		1800min^{-1} (max.) (Note 4)				
Allowable input shaft load		Radial: 15.7N Thrust: 12.7N				
Weight	Standard	500g	580g	650g	860g	860g
	With compound gear	930g	1010g	1080g	1290g	1290g
Protective structure		Dust-proof, drip-proof P54 (for pigtail/environment-resistant connector)				
Ambient temperature for use		–10 to 60℃ (no freezing)				
Ambient humidity for use		No more than 85%RH (no freezing)				
Vibration resistance		10G (10~500Hz／2HR) JIS C60068-26 compliant				
Shock resistance		50G (3 times each for X, Y, Z directions) JIS C60068-26 compliant				
Material		Shaft: stainless (SUS303) Gear: stainless steel, engineering plastic Case: corrosion-resistant aluminum				

Notes: 1. In case the number of counts is 128 CT or more, the gear box must be attached.
2. In case the number of counts is 512 CT or more, the gear box must be attached.
3. For pure binary code, specify the negative logic. 4. It differs depending on the number of CT.
5. For HR18 and HR20, BCD code output is not available.

12 Option

RC Encoder

Countable Range

CT number (Number of counts per input shaft rotation)	Allowable input rotation speed	Maximum countable rotation speed of input shaft		
		RC12	RC14	RC16
1CT	1800min⁻¹	4096	16384	65536
2CT	1800min⁻¹	2048	8192	32768
4CT	1800min⁻¹	1024	4096	16384
8CT	1800min⁻¹	512	2048	8192
16CT	1800min⁻¹	256	1024	4096
32CT	900min⁻¹	128	512	2048
64CT	300min⁻¹	64	256	1024
128CT	300min⁻¹	32	128	512

* The total number of counts of RC encoder is determined by a bit number.
  The total number of counts is calculated by multiplying the number of counts by the countable rotation speed.

Range of counting for HR encoder

HR encoder is constructed by combining multi-turn type and single-turn type, and the maximum number of counts per turn is 256 CT. Regardless of CT numbers, the maximum input shaft rotation speed is 1024 for HR18, and 4096 for HR20. Accordingly, HR20 is capable of counting up to the total number of counts of max. 1048576. In case the number of counts per turn is 1024 CT, the maximum input shaft rotation speed is 256 for HR18, and 1024 for HR20.

CT Number for Jack

We offer RC encoders for jacks, which are set in a way to count one per the lifting screw's movement of 0.1mm.

CT number for jacks		Jack's gear ratio	Maximum countable rotation speed of input shaft		
			RC12	RC14	RC16
RMG(CT)	=10CT	H	410	1638	6554
RSGH(CT)	=8CT	H	512	2048	8192
RSGL(CT)	=1.67CT	L	2543	9811	39244
J0GH(CT)	=8CT	H	512	2048	8192
J0GL(CT)	=1.67CT	L	2543	9811	39244
J1GH(CT)	=8.33CT	H	493	1974	7896
J1GL(CT)	=2.083CT	L	1966	7866	31462
J2GH(CT)	=13.3CT	H	308	1232	4928
J2GL(CT)	=3.33CT	L	1241	4965	19859
J3GH(CT)	=12.5CT	H	328	1311	5243
J3GL(CT)	=4.17CT	L	985	3938	15754
JGAH(CT)	=12.5CT	H	328	1311	5243
JGAL(CT)	=4.17CT	L	985	3938	15754
J4AH(CT)	=15CT	H	273	1092	4369
J4AL(CT)	=5CT	L	819	3277	13107
J5AH(CT)	=15CT	H	273	1092	4369
J5AL(CT)	=5CT	L	819	3277	13107
RSBH(CT)	=10CT	H	410	1638	6554
RSBL(CT)	=2.083CT	L	1966	7866	31462
J0BH(CT)	=10CT	H	410	1638	6554
J0BL(CT)	=2.083CT	L	1966	7866	31462
J1BH(CT)	=13.3CT	H	308	1232	4928
J1BL(CT)	=3.33CT	L	1241	4965	19859
J2BH(CT)	=16.66CT	H	247	987	3948
J2BL(CT)	=4.17CT	L	985	3938	15754
J3BH(CT)	=15CT	H	273	1092	4369
J3BL(CT)	=5CT	L	819	3277	13107
J4BH(CT)	=20CT	H	205	819	3277
J4BL(CT)	=6.66CT	L	621	2482	10081
J5BH(CT)	=18.75CT	H	219	874	3549
J5BL(CT)	=6.25CT	L	655	2621	10646

* If you would like to know CT numbers for jack series J6~J7, and CT numbers of manufacturable encoders other than those shown in the above table, please contact us.

Connecting Method

Pigtail type	Connector type	
Cabtyre cable	Standard connector	Environment-resistant connector (optional)
Heat-resistant PVC insulated cable 24-core × 0.14mm² Sheath outer diameter 9.8mm Standard 0.6m	JIS C 5432 Round connector for electronic device **Receptacle** SRCD2A25–24PC–FO※ **Plug** SRCN6A25–24S(standard) (solder-mounted type) SRCD6A25–24SC–FO※ (crimp type) (manufactured by Japan Aviation Electronics Industry, Ltd.)	MIL–C–5015 **Receptacle** D/MS3102E24–28P **Plug** D/MS3106E24–28S (solder-mounted type) (manufactured by DDK, Ltd.)

※As the crimp type SRCN series is the discontinued model, as soon as the series runs out of stock, we will supply the solder-mounted type SRCN series.
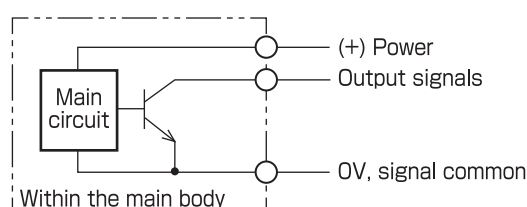
Output Circuit

Table of Connector Pin Number and Cable Number

24P

Connector pin No.	Cable color		Signal name	
	Base	Spiral	Pure binary/Gray	BCD
1(A)	Black	–	1st DIGIT	$1×10^0$
2(B)	White	–	2nd DIGIT	$2×10^0$
3(C)	Red	–	3rd DIGIT	$4×10^0$
4(D)	Blue	–	4th DIGIT	$8×10^0$
5(E)	Yellow	–	5th DIGIT	$1×10^1$
6(F)	Green	–	6th DIGIT	$2×10^1$
7(G)	Brown	–	7th DIGIT	$4×10^1$
8(H)	Orange	–	8th DIGIT	$8×10^1$
9(J)	Gray	–	9th DIGIT	$1×10^2$
10(K)	Purple	–	10th DIGIT	$2×10^2$
11(L)	White	Black	11th DIGIT	$4×10^2$
12(M)	Peach	–	12th DIGIT	$8×10^2$
13(N)	White	Red	13th DIGIT	$1×10^3$
14(P)	White	Blue	14th DIGIT	$2×10^3$
15(Q)	White	Yellow	15th DIGIT	$4×10^3$
16(R)	White	Green	16th DIGIT	$8×10^3$

コネクタピンNo.	ケーブル色		信号名	
	地	スパイラル	純2進・グレイ	BCD
17(S)	White	Brown	17th DIGIT	$1×10^4$
18(T)	White	Orange	18th DIGIT	$2×10^4$
19(U)	White	Gray	19th DIGIT	$4×10^4$
20(V)	White	Purple	20th DIGIT	$8×10^4$
21(W)	Yellow	Black	LATCH(Note 1)	
22(X)	Yellow	White	REVERSE COUNT(Note 1)	
23(Y)	Yellow	Red	GROUND	
24(Z)	Yellow	Blue	(+)Power source voltage	

24P
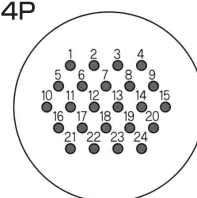
Note 1. For pure binary code and BCD code, the latch and reverse count are installed as standard signals. The output data is latched at the terminal (21) L. As for the reverse count at the terminal (22) L, the number of counts increases by counter-clockwise rotations.

Counting Ability

Determine the possible count amount within the range calculated by the following formula:

$$\boxed{\text{CT number per turn}} × \boxed{\text{Effective rotation speed}} ≦ \boxed{\text{Total countamount due to bit number}}$$
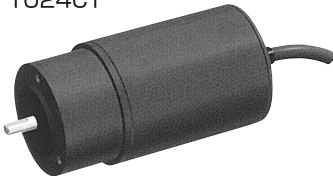
12bit=	4096
14bit=	16384
16bit=	65536

The CT number is the number of counts per rotation of the input shaft (standard: clockwise 360 degrees). The effective rotation speed is the number of rotations of the input shaft from zero to the maximum count amount. In case the effective rotation speed is exceeded, the encoder starts counting from zero, but there is no mechanical limit to restrict rotations.

12 Option

RC Encoder

RC Encoder

List of RC Encoders

RC12	RC14	RC16		
With 12-bit standard connector 1CT〜128CT 129CT〜512CT	**With 14-bit standard connector** 1CT〜128CT 129CT〜512CT	**With 16-bit standard connector** 1CT〜128CT 129CT〜512CT	**Ⓢ Standard connection (in the rear)**	**Ⓢ Standard connector**
With 12-bit standard lateral connector 1CT〜128CT 129CT〜512CT	**With 14-bit standard lateral connector** 1CT〜128CT 129CT〜512CT		**Ⓡ Lateral connection**	
12-bit pigtail 1CT〜128CT 129CT〜512CT	**14-bit pigtail** 1CT〜128CT 129CT〜512CT	**16-bit pigtail** 1CT〜128CT 129CT〜512CT	**Ⓢ Standard connection (in the rear)**	**Ⓟ Pigtail**
12-bit lateral pigtail 1CT〜128CT 129CT〜512CT	**14-bit lateral pigtail** 1CT〜128CT 129CT〜512CT		**Ⓡ Lateral connection**	
With 12-bit environment -resistant connector 1CT〜128CT 129CT〜512CT	**With 14-bit environment -resistant connector** 1CT〜128CT 129CT〜512CT	**With 16-bit environment -resistant connector** 1CT〜128CT 129CT〜512CT	**Ⓢ Standard connection (in the rear)**	**Ⓣ Environment-resistant connector**

List of HR Encoders

HR18～HR20

With standard connector

128～256CT

512～1024CT

256CT

1024CT

Pigtail

256CT

1024CT

256CT

1024CT

With environment-resistant connector

256CT

1024CT

Ⓢ Standard connector
- Ⓢ Standard connection(in the rear)
- Ⓡ Lateral connection

Ⓟ Pigtail
- Ⓢ Standard connection(in the rear)
- Ⓡ Lateral connection

Ⓣ Environment-resistant connector
- Ⓢ Standard connection(in the rear)

12 Option

RC Encoder

RC Encoder

Dimensions of Single Items

RC encoder: standard type

3=M4 P=0.7 D=6
P. C. D. 60

	RC12	RC14	RC16
φD	73	80	87

Pigtail

Heat-resistant cable
PCV 24-core

Standard
connector

Standard round connector
Receptacle: SRCD2A25–24PC–F0
Plug: SRCN6A25–24S
(solder-mounted)

Environment-resistant
connector

Environment-resistant round connector
Receptacle: D/MS3102E24–28P
Plug: D/MS3106E24–28S
(solder-mounted)

Lateral type

Pigtail

Standard
connector
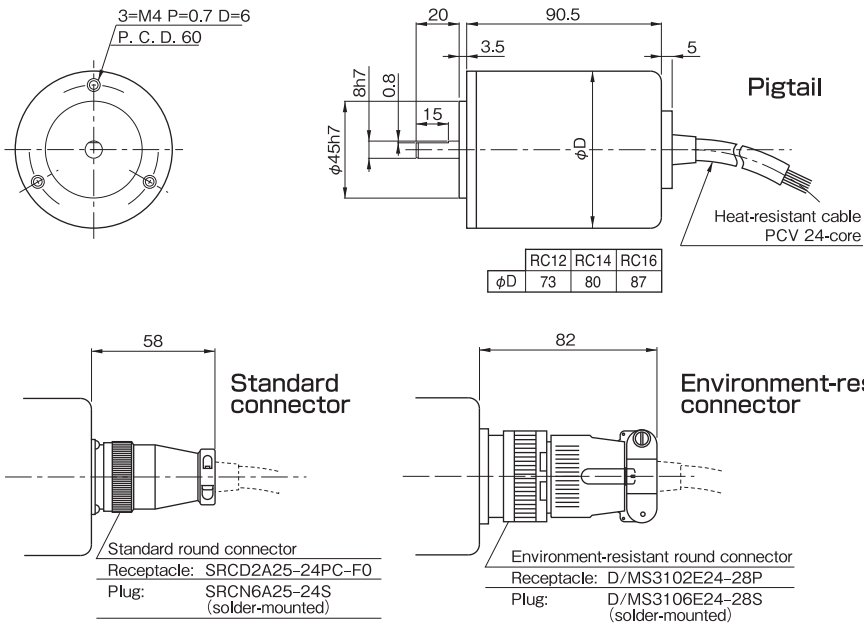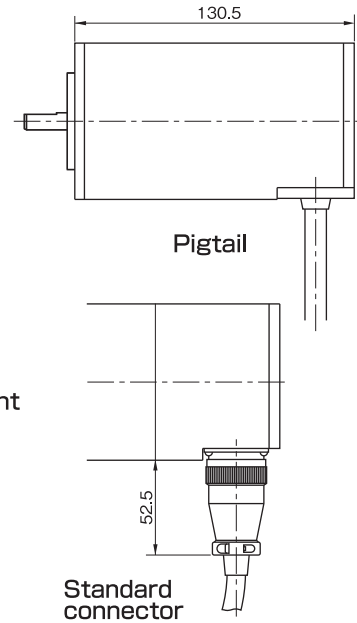
With gear box
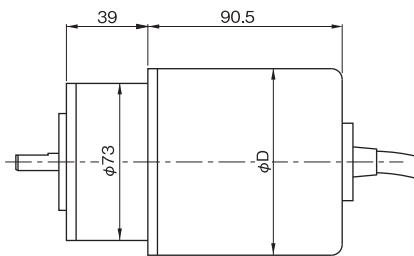
RC encoder (HR 18, 20)

Mounting adaptor

6–φ4.5
drill diameter
Trisection,
both sides

P.C.D.60

4–M3

View B

Cross-sectional view A–A

Bracket

3–φ5
drill diameter
Trisection

4–φ7
drill diameter

P.C.D.60
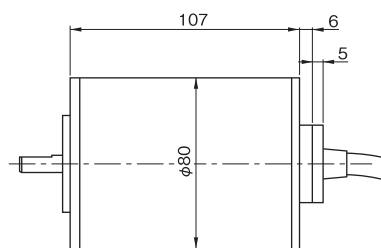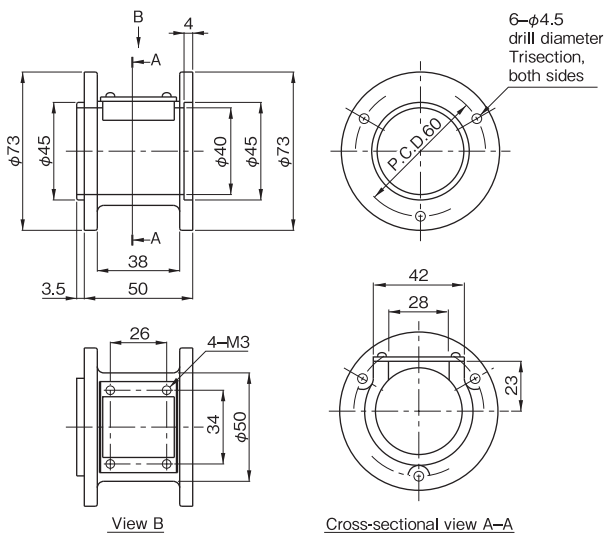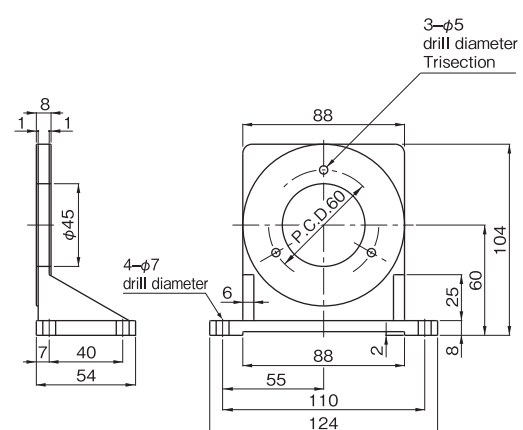
Mounting Dimensions
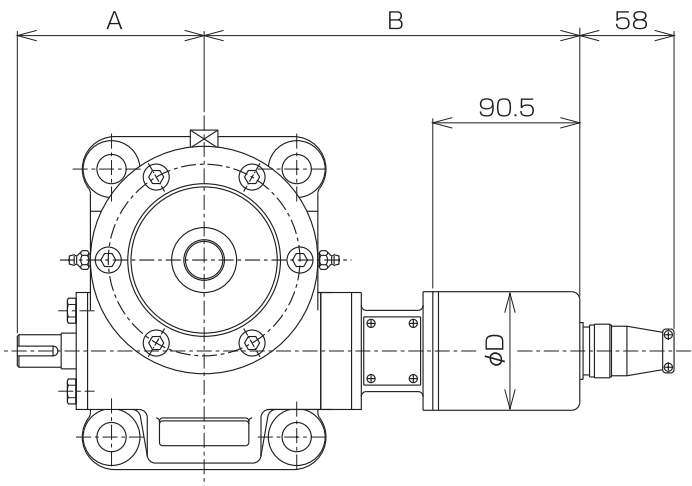
Symbol Series	A	B
RMG(S、Y)	60	189
RSG(B、F、S、Y)	75	200
J0G(B、F、Y)	85	206
J1G(B、F)	90	207
J2G(B、F)	115	232
J3G(B、F)	140	241
JGA	145	246
J4A(B、F)	150	250
J5A(B)	180	272
J6A(B)	279	301
JFA(B)	300	361
J7A(B)	305	354
JMR	63	191
JSR	95	212

Symbol Series	ϕD
RC12	73
RC14	80
RC16	87

Mounting Direction Symbol

To mount RC encoder, please specify a mounting direction by selecting one of the following symbols. These symbols apply to both upright and inverted types.
In case you do not specify a mounting direction, R will be delivered.
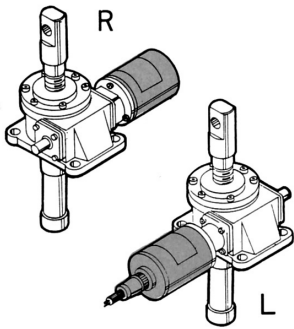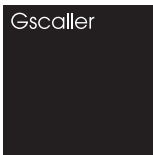
Gscaller

Gscaller

Option for Jacks

Gscaller converts positioning data from an absolute encoder into scale values, and displays such values. Gscaller can also generate both digital and analog outputs, and transmit such signals to external control devices (e.g. PLC). Furthermore, it has an electric limit switch, which actuates the contact at the arbitrarily-preset position. The combined use with the absolute encoder, "RC encoder"[1], will make the position control easy.

[1]: RC encoder is the batteryless multi-turn absolute type encoder manufactured by Nippon Gear. The special gear mechanism counts the rotation amount, and outputs it as a binary signal. Count errors induced by vibration are minimized, and Gscaller is multi-turn, so it can be connected directly to your device.

Features

□ **Scaling function**
It enables arbitrary setting of the proportion of the encoder's rotation amount vs. machine's traveling distance by the conversion into the scale of your choice, and can be used for indicating jacks' strokes, and distance of a moving object. By changing the scale value, you can display values in such different units as mm, %, and inches.

□ **Compatible with wide-ranged encoders**
It is adaptable to encoders with the following features: from 8-bit to 16 bit, various codes (Gray, pure-binary, and BCD), and various power sources (DC12V, 24V, and 5V).

□ **Various types of outputs** (BCD output, electronic positioning limit output, analog output)
①Type 1: BCD signal output type 4-digit
②Type 2: BCD signal output type 4-digit + position limit: 5 + alarm: 1
③Type 3: Position limit output type 15 + alarm: 1
④Option: Analog 4-20mA (can be added to the above ① to ③)

□ **Reversing function**
→ The relation between the rotation direction and increase/decrease of counts can be selected at the time of setting

□ **Diagnose the encoder, and display the alarm at the occurrence of abnormality**

Gscaller
Digital Indicator / Electric Limit Switch

Function		Type 1	Type 2	Type 3
Encoder input	Bit number	8-bit, 10-bit, 12-bit, 14-bit, 16-bit		
	Code	Gray binary, pure binary, BCD 4-digit		
BCD output		BCD 4-digit, polar, BUSY	BCD 4-digit, polar, BUSY	——
Position limit signal		——	5+alarm	7+alarm+8
Analog output (DA)		4~20mA		

●For more details, please contact us.

Handwheel

Option for Jacks

A screw jack with a trapezoidal screw has the self-locking function, so it can be used for manual operation by merely attaching a dedicated handwheel.

* It is recommended to ensure the handwheel operating force is no more than 50N.

$$\text{Handwheel operating force(N)} = \frac{\text{Required input shaft torque(N·m)}}{\text{Handwheel radius(m)}}$$
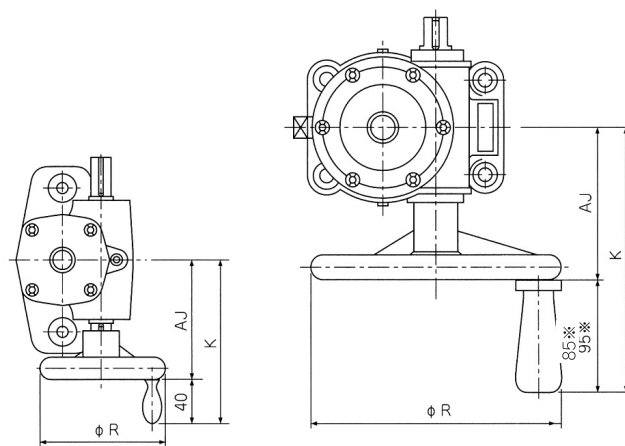
* The grip size (length) for 80 type and 100 type is 40.

	80 type			100 type			200 type			300 type		
	R	K	AJ	R	K	AJ	R	K	AJ	R	K	AJ
RMG	80	115	75	100	120	80						
RSG	80	130	90	100	130	90						
J0G				100	135	95	200	210	115			
J1G				100	145	105	200	210	115			
J2G										300	275	180
J3G										300	285	190

Trunnion Base

Option for Jacks

Pin diameter φSd8

8-φd mounting holes
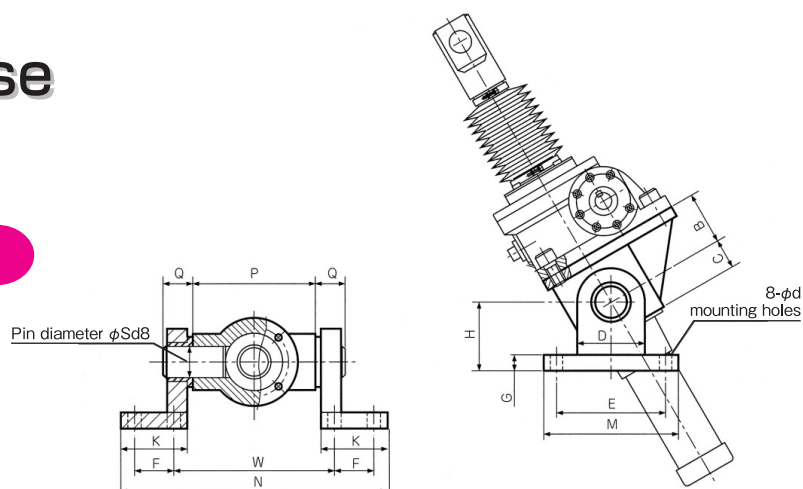
Screw jack	RMG	RSG	J0G	J1G	J2G	J3G	JGA	J4A	J5A	J6A	JFA	J7A
Ball screw jack	—	RSB	J0B	J1B	J2B	J3B	—	J4B	J5B	J6B	JFB	J7B
B	20	14	50	60	70	80	90	100	120	140	140	160
C	12	14	22	20	40	55	65	75	90	120	120	140
D	24	32	50	70	90	120	140	160	180	220	220	260
E	50	60	80	110	150	170	190	230	270	320	400	400
F	—	—	30	40	50	60	65	70	90	120	120	140
G	6	8	12	12	18	24	26	28	36	50	50	55
H	20	30	60	80	85	120	130	140	170	200	210	270
K	24	30	54	70	90	100	110	120	150	220	220	250
M	70	80	104	134	186	210	240	280	330	400	500	500
N	126	160	254	250	340	400	435	460	600	960	860	1170
P	74	94	140	100	150	190	200	205	280	500	400	640
Q	13	17	20	22	40	45	50	50	80	100	115	150
S	10	15	15	25	35	50	60	70	80	100	100	100
W	102	130	170	140	200	240	260	270	360	620	520	780
d	7	9	11	11	18	22	22	26	33	45	45	55
Bolt used	M6	M8	M10	M10	M16	M20	M20	M24	M30	M42	M42	M52

(Symbol used in the drawings (mm))

12 Option