

ZRS

Roller gear cam unit

Mechanical indexer



CONTENTS

Product introduction	Intro
Model No. configuration (body)	
Model No. configuration (with option)	2
● Specifications/How to order/Dimensions	
• ZRS-04	8
• ZRS-05	14
• ZRS-06	22
• ZRS-08	28
• ZRS-11	34
• ZRS-14	40
● Technical data (common specifications)	48
● Technical data (output torque table)	50
● Option	87
⚠ Safety precautions	116
Model selection specifications check sheet	136

Model No. configuration (body)

ZRS

Technical data

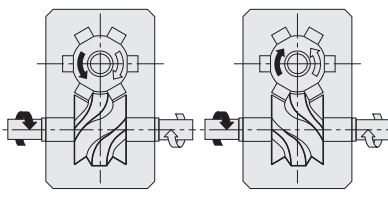
Option

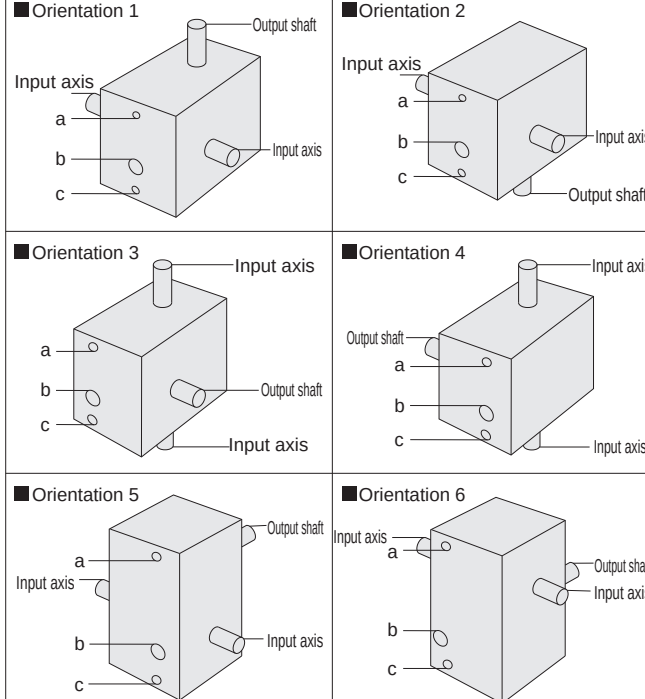
Safety precautions

Model selection specifications
Check sheet

Index operation X

ZRS - 08 X - 006 120 S 1 S 1
1 2 3 4 5 6 7

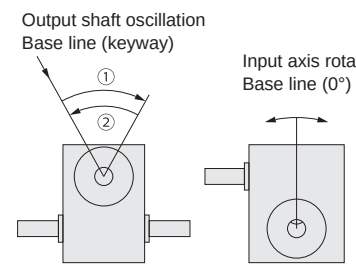
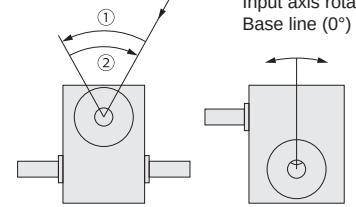
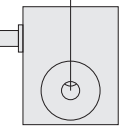
1 Size		2 Indexing No. (n)		3 Total allocation angle (θt)		4 Cam curve		5 Cam torsion direction/number of stays	
04	Distance between axes 40mm	002	2	090	90°	S	MS curve (Standard)	1	Left torsion/1 stationary
05	50mm	003	3	120	120°			2	Left torsion/2 stationary
06	63mm	004	4	150	150°			5	Right twist/1 stationary
08	80mm	005	5	180	180°			6	Right twist/2 stationary
11	110mm	006	6	210	210°				
14	140mm	008	8	240	240°				
		009	9	270	270°				
		010	10	300	300°				
		012	12	330	330°				
		015	15						
		016	16						
		018	18						
		020	20						
		024	24						
		030	30						
		032	32						

6 Output shaft shape		7 Installation orientation/housing material	
S	Straight	1	Orientation 1/Fc Housing
F	Flange	2	Orientation 2/Fc Housing
*Torque saver (Option) If included, the code is S.		3	Orientation 3/Fc Housing
		4	Orientation 4/Fc Housing
		5	Orientation 5/Fc Housing
		6	Orientation 6/Fc Housing
			

a: Lubrication port b: Oil level indicator c: Oil discharge port

Oscillating operation Y

ZRS - 06 Y - 090 300 S T S 1
1 2 3 4 5 6 7

1 Size		2 Oscillation angle (ψ)		3 Total allocation angle (θt)		4 Cam curve		5 Oscillation pattern			
	Distance between axes	120	120°	180	180°(90°×2)	S	MS curve (Standard)	T	When the input shaft starts rotating from the rotation reference position, the output shaft rotates in the order shown in ①⇒②.		
04	40mm	090	90°	240	240°(120°×2)				Output shaft oscillation Base line (keyway)		
05	50mm	060	60°	300	300°(150°×2)						
06	63mm	045	45°	360	360°(180°×2)						
08	80mm	030	30°								
11	110mm										
14	140mm										
								S	When the input shaft starts rotating from the rotation reference position, the output shaft rotates in the order shown in ①⇒②.		
									Output shaft oscillation Base line (keyway)		
									Input axis rotation Base line (0°)		

ZRS

Technical data

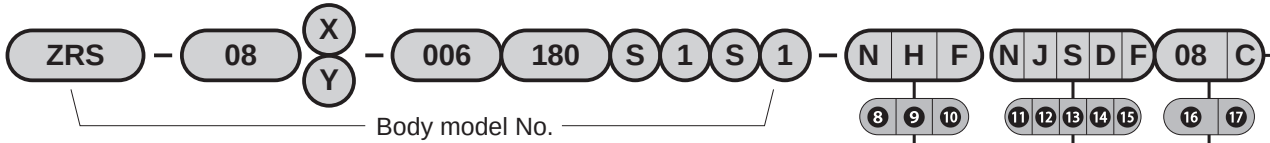
Option

Safety precautions

Model selection specifications
Check sheet

Model No. configuration (with option)

Common for index oscillations



▼ When mounting the torque saver/torque guard (Refer to the following page)

▼ Hollow shaft geared motor mounting specification code * Refer to pages 114 to 115.

I/O axis specification code		
8 Input axis specification code [Left axis]	9 Input axis specification code [right axis]	10 Output axis specification code
N Stepped part Left axis N□□ Output shaft	N Right axis □N□	N □□N
K K□□	K □K□	K □□K
C C□□	C □C□	C □□C
J J□□ (Proximity SW)	J □J□ (Proximity SW)	F/X □□F □□X
H H□□	H □H□	S/Y Note3 □□S □□Y
W W□□	W □W□	
G Gear head + Motor G□□	G Gear head + Motor □G□	
N Standard (with keyway) K Without keyway C Cut * The parts are cut at stepped parts, so they project from the housing. Check the dimensions. J Input axis 1 rotation detection cam + proximity switch (1 station) * Two or more stations are custom made. (In some cases, two stations may be required when reversing the input axis.) * Two proximity switch detection locations are custom made for two dwell locations (including oscillations) or three dwell locations or more. H Hollow shaft geared motor * Since the motor to be mounted must be specified, determine the "hollow shaft geared motor mounting specification code". W With worm reducer (W:HO reducer) * As the specification of the worm reducer to be attached is required, determine the "worm reducer mounting specification code". G Gear head + motor * Since the specifications of the gear head and motor to be mounted are required, decide on the "gear head + motor mounting specification code".		
N Standard (with keyway) K Without keyway (straight axis) F With torque saver (TSF) (Without output shaft keyway) X With torque guard (TGX) (Without output shaft keyway) S Torque saver (TSF) + release detection proximity switch (without output shaft key groove) Y Torque guard (TGX) + release detection proximity switch (without output shaft key groove) For F/X/S/Y selection, the specifications of the torque saver and torque guard to be mounted are required. Determine the torque saver and torque guard mounting specification code.		

11 Motor-type		12 Motor output			13 Voltage	14 Reduction ratio	15 Driving method		
				Applicable index size					
G	Hypoid gear	G	0.1kW	05	S	Three-phase 200 V	Refer to the table below for codes of the reduction ratio	F	Face mount
		H	0.2kW						
		H	0.2kW	06					
		J	0.4kW						
		J	0.4kW	08					
		K	0.75kW						
		K	0.75kW	11					
		L	1.5kW						
T		L	1.5kW	14					
		M	2.2kW						

11 G: Nissei T: Tsubaki T&M

▼ Motor output and reduction ratio combination table

12 Motor output		14 Reduction ratio							
	Size								
		A	B	C	D	E	F	G	H
G 0.1kW	05	-	-	1/20	1/25	1/30	1/40	1/50	1/60
H 0.2kW		1/10	1/15	1/20	1/25	1/30	1/40	1/50	1/60
H 0.2kW	06	-	-	1/20	1/25	1/30	1/40	1/50	1/60
J 0.4kW		1/10	1/15	1/20	1/25	1/30	1/40	1/50	1/60
J 0.4kW	08	-	-	1/20	1/25	1/30	1/40	1/50	1/60
K 0.75kW		1/10	1/15	1/20	1/25	1/30	1/40	1/50	1/60
K 0.75kW	11	-	-	1/20	1/25	1/30	1/40	1/50	1/60
L 1.5kW		1/10	1/15	1/20	1/25	1/30	1/40	1/50	1/60
L 1.5kW	14	-	-	1/20	1/25	1/30	1/40	1/50	1/60
M 2.2kW		1/10	1/15	1/20	1/25	1/30	1/40	1/49.286	1/60

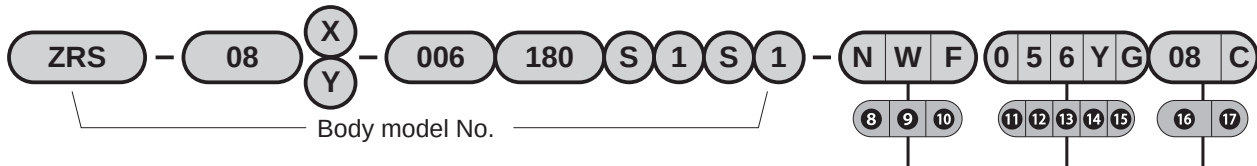
* The combinations above are standard mounting.
Check the motor capacity (Pe), output shaft allowable torque (Trr), and geared motor load torque (Ter) before use.

▼ For worm reducer installation (Refer to the following page)

▼ For gear head + motor mounting (Refer to the following page)

Model No. configuration (with option)

Common for index oscillations



▼ For worm reducer installation

Worm reducer mounting specification code									
11 12 Reducer size		13 Reduction ratio	14 Clutch with/without brake	15 Mounting direction					
03	HO32	2 1/20	Y Clutch With brake N Clutch Without brake	Left axis mounting	A	B	C	D	
04	HO40	3 1/30			J	K	L	M	
05	HO50	4 1/40			AR	BR	CR	DR	
06	HO60	5 1/50			E	F	G	H	
08	HO80	6 1/60			N	P	Q	R	
* Refer to pages 88 to 99.		* Be sure to confirm the delivery date as 1/30 and 1/50 are in the special speed ratio.	Right axis mounting		ER	FR	GR	HR	

Standard mounted worm reducer list

Body model No.		HO reducer size	Values in reduction ratio () are for special speed ratios.
ZRS-*X ZRS-*Y	04	HO32	1/20, 1/40, 1/60 (1/30, 1/50)
	05	HO32	1/20, 1/40, 1/60 (1/30, 1/50)
	06	HO40	1/20, 1/40, 1/60 (1/30, 1/50)
	08	HO50	1/20, 1/40, 1/60 (1/30, 1/50)
	11	HO60	1/20, 1/40, 1/60 (1/30, 1/50)
	14	HO80	1/20, 1/40, 1/60 (1/30, 1/50)

* The combinations above are standard mounting. Check the reducer load torque (Ter) and reducer rated output torque before use.

▼ For gear head + motor mounting

Gear head + motor mounting specification code					
11 Motor-type		12 Motor output	13 Voltage	14 Gear head reduction ratio	15 Driving method
E Induction	C 25W	A Single-phase 100 V	A 1/3	L 1/30	G Gear drive 
R Reversible	D 40W	C Single-phase 200 V	B 1/3.6	M 1/36	
B With brake	E 60W	S Three-phase 200 V	C 1/5	N 1/50	
C With C/B	F 90W		D 1/6	P 1/60	
			E 1/7.5	Q 1/75	
			F 1/9	R 1/90	
			G 1/12.5	S 1/100	
			H 1/15	T 1/120	
			J 1/18	U 1/150	
			K 1/25	V 1/180	
* Refer to the gear head + motor mounting list on page 49.					

* For reduction ratio 1/3 to 1/9, the input shaft rotation speed may be 200rpm or more. Contact CKD in this case.

▼ For torque saver

16 17 Torque saver Mounting specification code				Application Body size
16 TSF size		17 Release Torque range		
04	TSF4	A B C D	A B C D	04
05	TSF5			04/05
06	TSF6			05/06
08	TSF8			08
11	TSF11			11
14	TSF14			14

* If the input shaft is not equipped with a worm reducer, gear head + motor, or hollow shaft geared motor, and the output shaft is equipped with a torque saver/torque guard, add a hyphen "-" in (11) and continue with the torque saver/torque guard installation specification code. (Example) ZRS-08X-006270S1S1-NNF-08D ZRS-11X-008180S1S1-NNX-70L

* If a torque saver/torque guard is installed with a specification exceeding the indexing No. n=12, it may not be possible to set an appropriate release torque. Check this information during model selection.

▼ In case of torque guard installation

16 17 Torque guard Mounting specification code				Application Body size
16 TGX size		17 Trip Torque range		
20	TGX20	L M H	LC	04/05
35	TGX35		MC	06
50	TGX50		HC	08
70	TGX70			11

* Torque Saver/Torque Guard Release (Trip) Please let us know if you want to specify the torque setting. If not specified, the product is shipped with the minimum value within the adjusting range. (Refer to pages 100 to 113)

* The proximity SW for release detection of the torque saver/torque guard is NO. NC is also available. Contact CKD.



Mechanical indexer Roller gear cam unit

ZRS-04

Distance between axes: 40mm

ZRS

Technical data

Option

Safety precautions

Model selection specifications
Check sheet

How to order

ZRS - **04** **X** - **004** **270** **S** **1** **S** **1** - Option
 ①Size ②Operation ③Indexing No. Oscillation angle ④Total allocated angle ⑤Cam curve ⑥Cam torsion Oscillation pattern ⑦Output shaft shape ⑧Installation orientation
 *Refer to page 87.

①Size	
04	Distance between axes 40mm

②Operation	
X	Index
Y	Oscillations

③Indexing No. (for indexing)			
002	2	012	12
003	3	016	16
004	4	018	18
005	5	020	20
006	6	024	24
008	8		
009	9		
010	10		

③Oscillation angle (for oscillations)			
030	30°	090	90°
045	45°	120	120°
060	60°		

④Total indexing angle (for index)			
090	90°	240	240°
120	120°	270	270°
150	150°	300	300°
180	180°	330	330°
210	210°		

④Total allocated angle (for oscillations)			
180	180°(90°x 2)	300	300°(150°x 2)
240	240°(120°x 2)	360	360°(180°x 2)

⑤Cam curve	
S	MS curve

⑥Cam torsion (for index)	
	Refer to page 2

⑥Oscillating pattern (for oscillations)	
	Refer to page 2

⑦Output shaft shape	
S	Straight
F	Flange

⑧Installation orientation	
	Refer to page 3.

Specifications

Indexing accuracy (Index)	Seconds	1 stationary	±60
		2 stationary	±120
Indexing accuracy (oscillating)	Seconds		±120
Repeatability	Seconds		30
Allowable thrust force	N	Output shaft	1300
		Input axis	800
Allowable radial force	N	Output shaft	1100 (1000)
		Input axis	540
Allowable bending moment	N·m	Output shaft	30
Moment of inertia	kg·m ²	Output shaft	6.40 x 10 ⁻⁵ (3.14 x 10 ⁻⁴)
		Input axis	4.61 x 10 ⁻⁵
Internal friction torque	N·m		1.9
Body weight	kg		5
Oil amount	ℓ		0.1

* Values in () are for ⑦ output shaft shape F: flange.
 * Contact CKD for stopping accuracy.

Allocation angle list

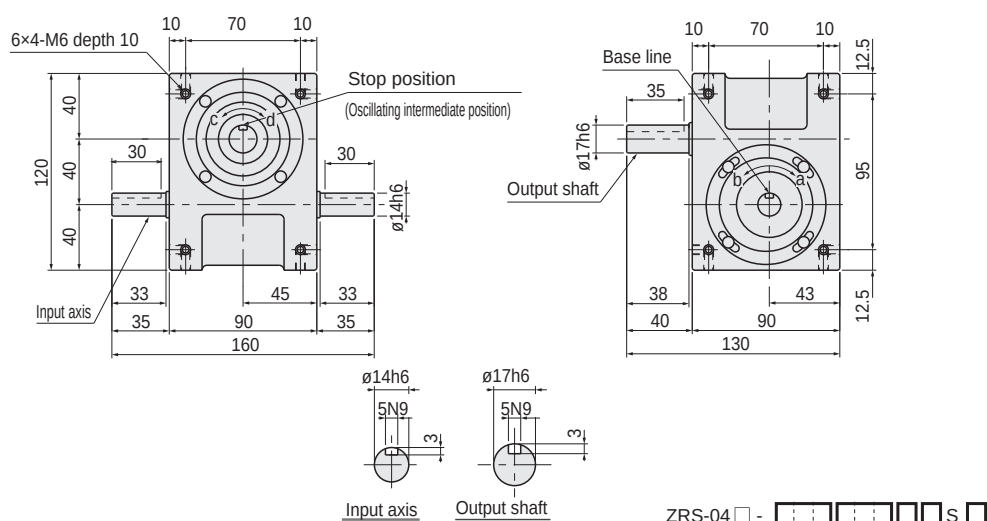
Index operation

Total allocated angle (θt)										
Indexing No. (n)		90°	120°	150°	180°	210°	240°	270°	300°	330°
1 stationary	2							○	○	○
	3				○	○	○	○	○	○
	4			○	○	○	○	○	○	○
	5		○	○	○	○	○	○	○	○
	6	○	○	○	○	○	○	○	○	○
	8	○	○	○	○	○	○	○	○	○
	9	○	○	○	○	○	○	○	○	○
	10	○	○	○	○	○	○	○	○	○
	12	○	○	○	○	○	○	○	○	○
	16		○	○	○	○	○	○	○	○
	18		○	○	○	○	○	○	○	○
	20	○	○	○	○	○	○	○	○	○
2 stationary	24	○	○	○	○	○	○	○	○	○

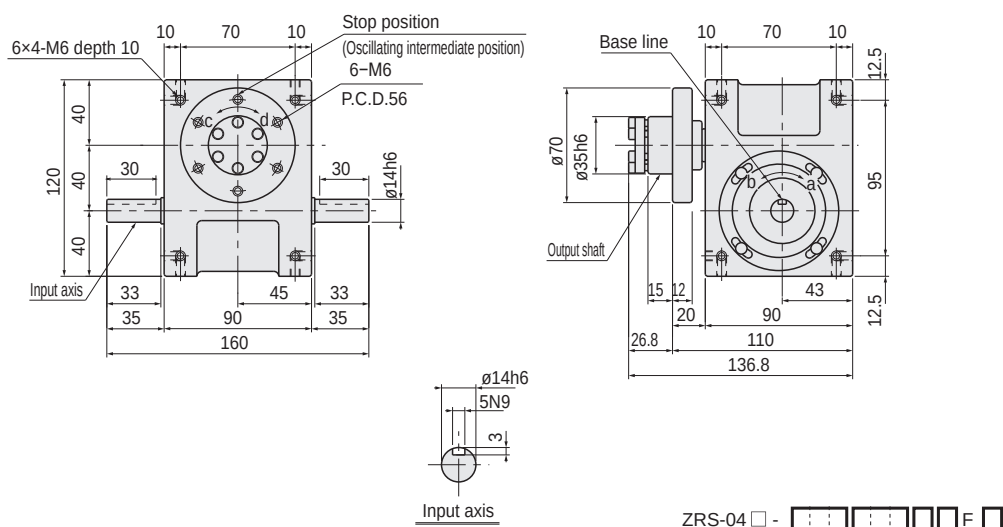
Oscillating operation

Total allocated angle (θt)					
Oscillation angle (ψ)		180°	240°	300°	360°
120°					○
90°				○	○
60°	○	○	○	○	○
45°	○	○	○	○	○
30°	○	○	○	○	○

Dimensions (straight axis)



Dimensions (flange shaft)

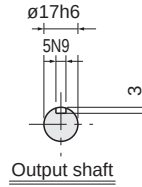
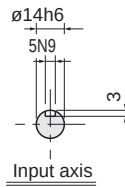
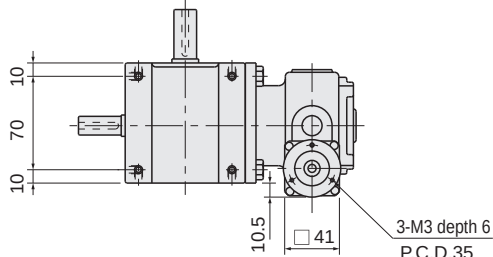
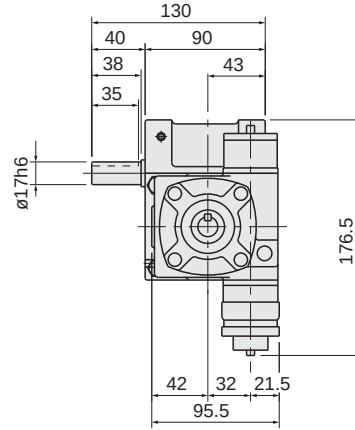
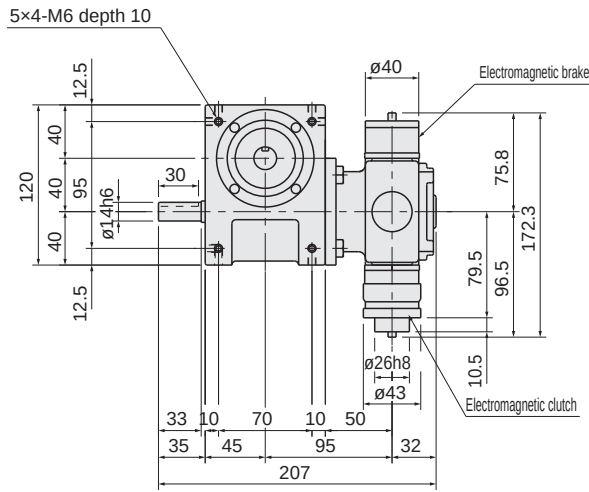


Mounting orientation and lubrication port/Oil level indicator position

- Oil filler ($Rc^{1/4}$)
- Oil level indicator
- Positions 1 to 4 ($\phi 20$)
- Positions 5 to 6 ($\phi 30$)

Installation orientation	1	2	3
Dimensions			
Installation orientation	4	5	6
Dimensions			

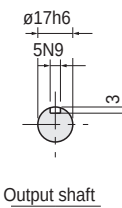
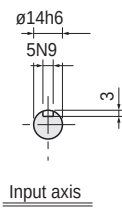
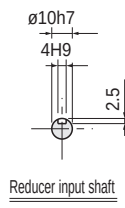
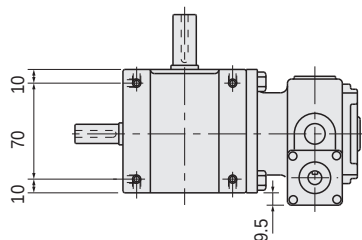
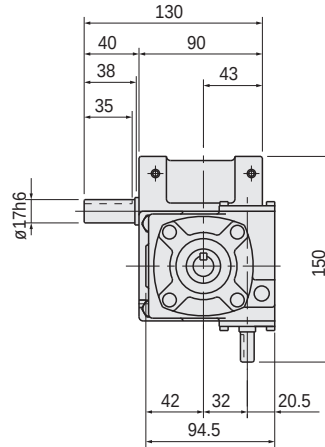
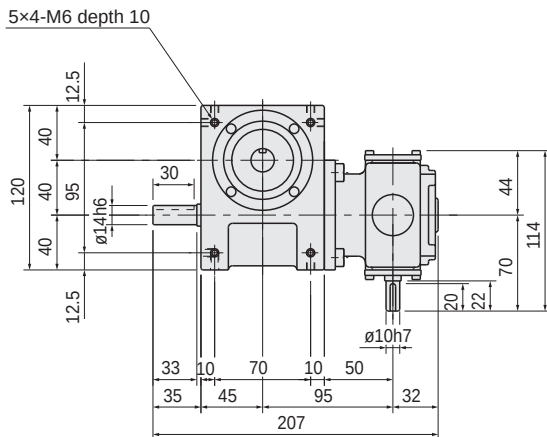
● With worm reducer (HO32-C/B)



ZRS-04 - S -NWN03 YG

The fastening key of the reduction gear and the input shaft shall be of old JIS1 type (JIS B1301-1959).

● With worm reducer (without HO32-C/B)

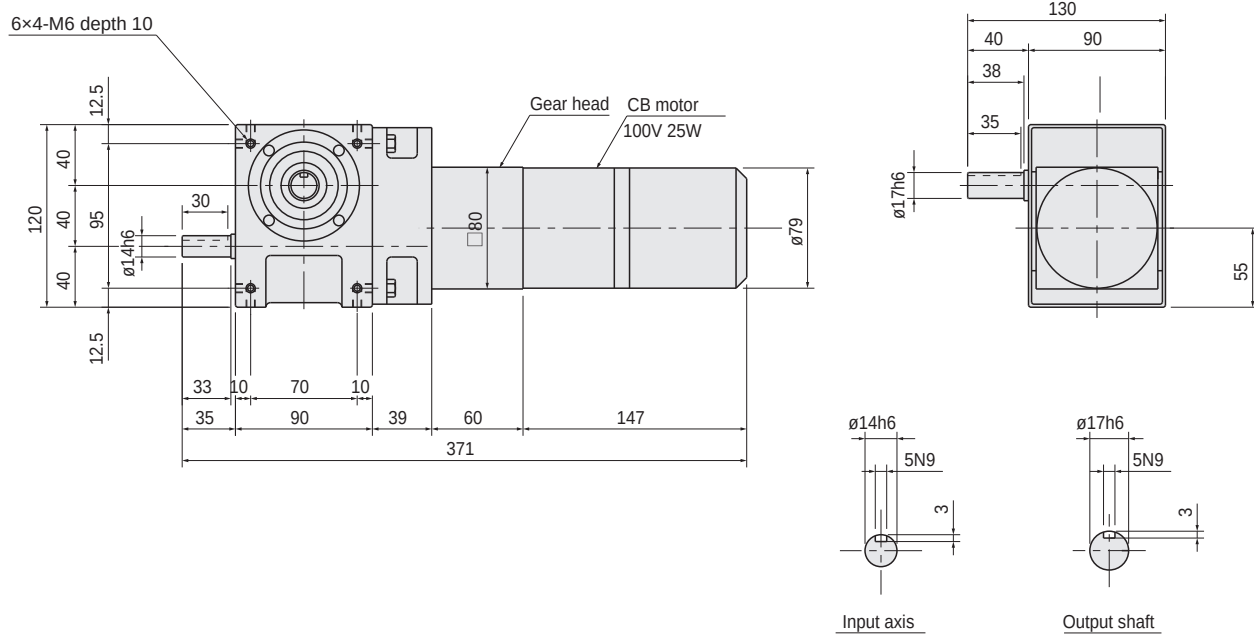


ZRS-04 - S -NWN03 NG

The fastening key of the reduction gear and the input shaft shall be of old JIS1 type (JIS B1301-1959)

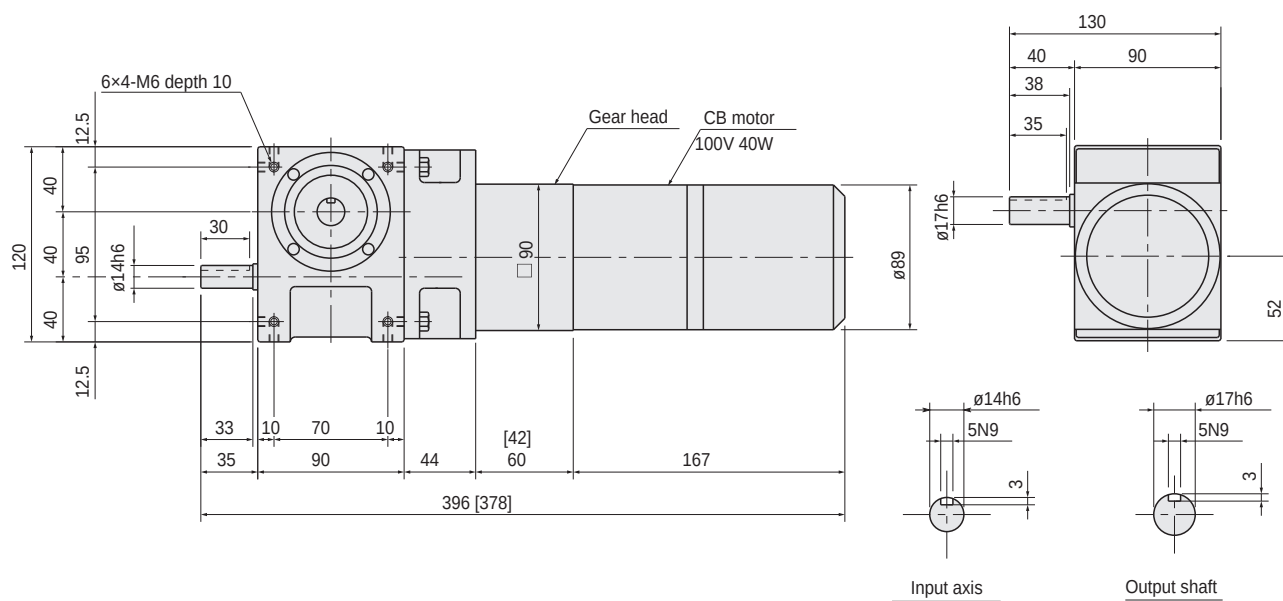
Optional dimensions

● Gear head + motor (with C/B 25 W)



ZRS-04 ☐ - ☐ ☐ ☐ ☐ ☐ ☐ S ☐ -NGNCCA ☐ G

● Gear head + motor (with C/B 40 W)

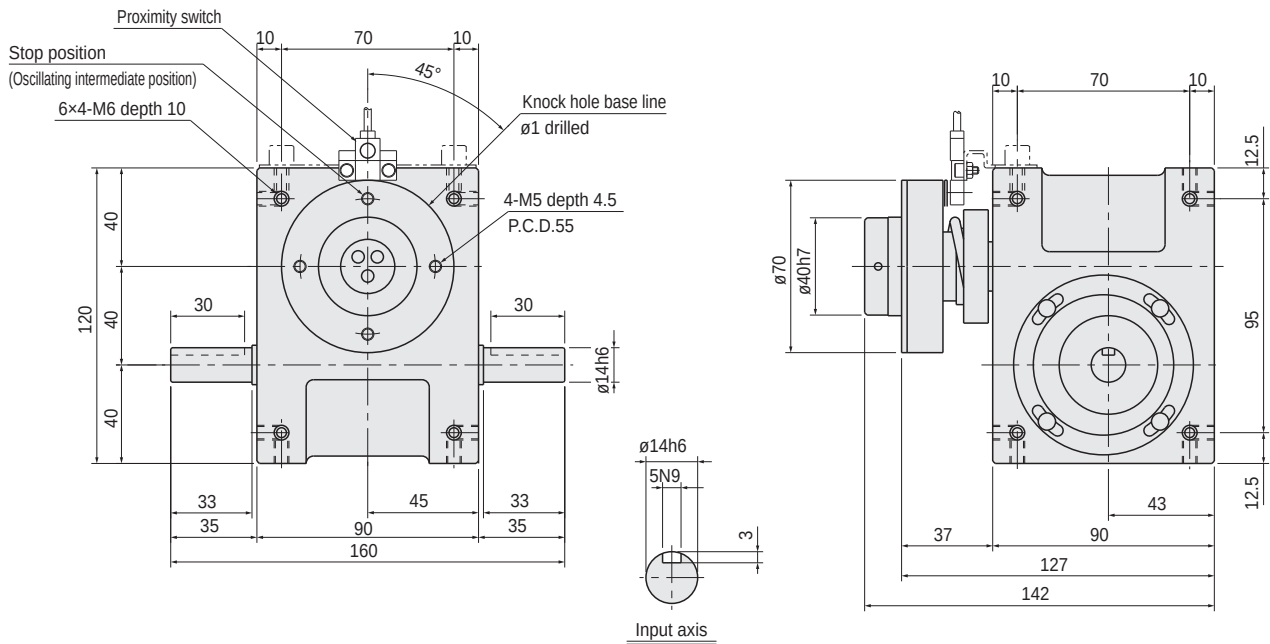


Dimensions in [] are for which the reduction ratio of the gear head is 1/3 to 1/18

ZRS-04 ☐ - ☐ ☐ ☐ ☐ ☐ ☐ S ☐ -NGNCDA ☐ G

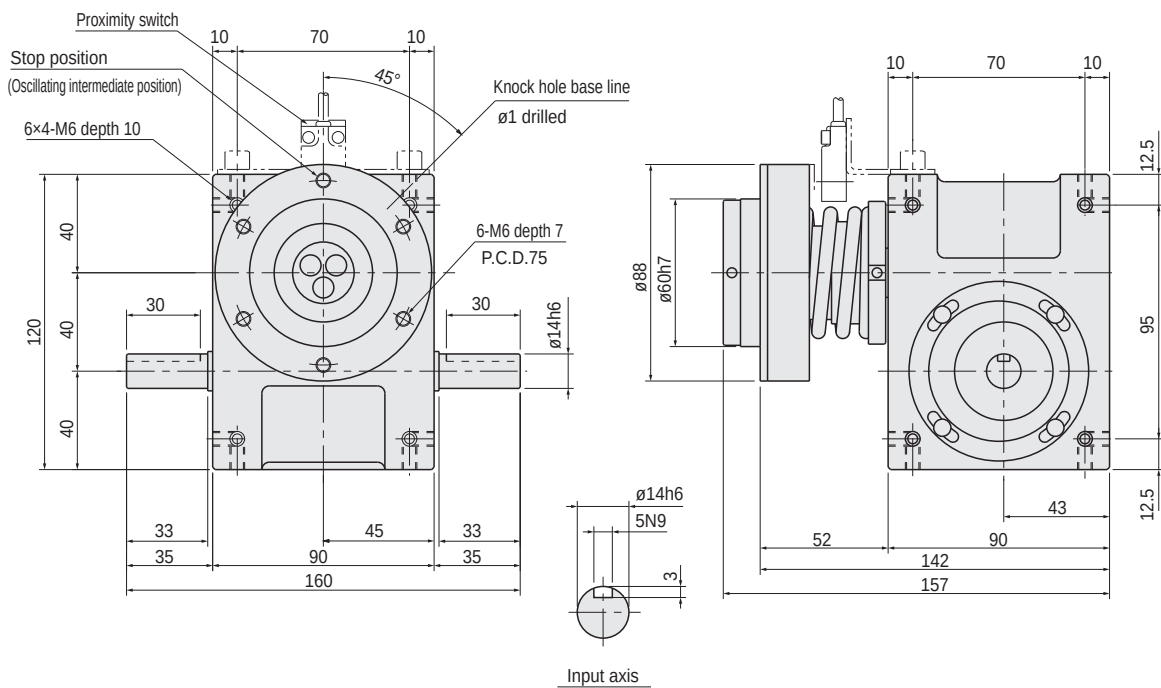
Optional dimensions

● With torque saver (TSF4)



ZRS-04 ☐ - ☐ ☐ ☐ ☐ ☐ S ☐ -NNF-04 ☐

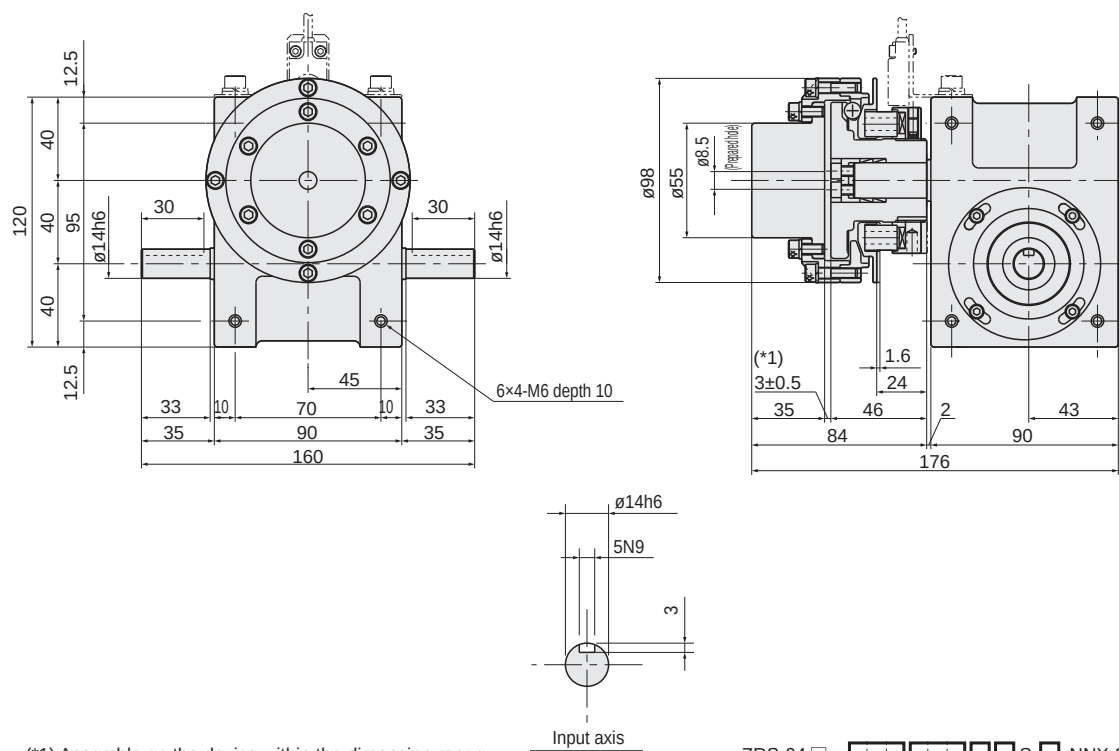
● With torque saver (TSF5)



ZRS-04 ☐ - ☐ ☐ ☐ ☐ ☐ S ☐ -NNF-05 ☐

Optional dimensions

● With torque guard (TGX20)



(*1) Assemble on the device within the dimension range.

ZRS-04 ☐ - ☐ ☐ ☐ ☐ ☐ S ☐ -NNX-20 ☐



Mechanical indexer Roller gear cam unit

ZRS-05

Distance between axes: 50mm

ZRS

Technical data

Option

Safety precautions

Model selection specifications
Check sheet

How to order

ZRS - **05** **X** - **004** **270** **S** **1** **S** **1** - Option
 ①Size ②Operation ③Indexing No. Oscillation angle ④Total allocated angle ⑤Cam curve ⑥Cam torsion Oscillation pattern ⑦Output shaft shape ⑧Installation orientation
 *Refer to page 87.

①Size	
05	Distance between axes 50mm

②Operation	
X	Index
Y	Oscillations

③Indexing No. (for indexing)			
002	2	012	12
003	3	016	16
004	4	018	18
005	5	020	20
006	6	024	24
008	8		
009	9		
010	10		

④Oscillation angle (for oscillations)			
030	30°	090	90°
045	45°	120	120°
060	60°		

④Total indexing angle (for indexes)			
090	90°	240	240°
120	120°	270	270°
150	150°	300	300°
180	180°	330	330°
210	210°		

④Total allocated angle (in the case of oscillations)			
180	180°(90°x 2)	300	300°(150°x 2)
240	240°(120°x 2)	360	360°(180°x 2)

⑤Cam curve	
S	MS curve

⑥Cam torsion (for index)	
Refer to page 2	
⑥Oscillating pattern (oscillating)	
Refer to page 2	

⑦Output shaft shape	
S	Straight
F	Flange

⑧Installation orientation	
Refer to page 3.	

Specifications

Indexing accuracy (Index) (Table at right ☆ indexing number)	Seconds	1 stationary	±30
		2 stationary	±90
Indexing accuracy (Index) (Indexing No. ☆ other than the marking on the right table)	Seconds	1 stationary	±60
		2 stationary	±120
Indexing accuracy (oscillating) (★ of table at right)	Seconds		±90
Indexing accuracy (oscillating) (★ angle other than those in the table at right)	Seconds		±120
Repeatability (Table ☆ on right, ★ angle)	Seconds		±15
Repeatability (☆ number of indexing other than the mark on the right, ★ angle other than the mark)	Seconds		±30
Allowable thrust force	N	Output shaft	2200
		Input axis	1200
Allowable radial force	N	Output shaft	2000
		Input axis	710
Allowable bending moment	N·m	Output shaft	50
Moment of inertia	kg·m ²	Output shaft	2.20 x 10 ⁻⁴ (4.69 x 10 ⁻⁴)
		Input axis	2.57 x 10 ⁻⁴
Internal friction torque	N·m		3.0
Body weight	kg		11
Oil amount	ℓ		0.5

* Values in () are for ⑦ output shaft shape F: flange.

* Contact CKD for stopping accuracy.

Allocation angle list

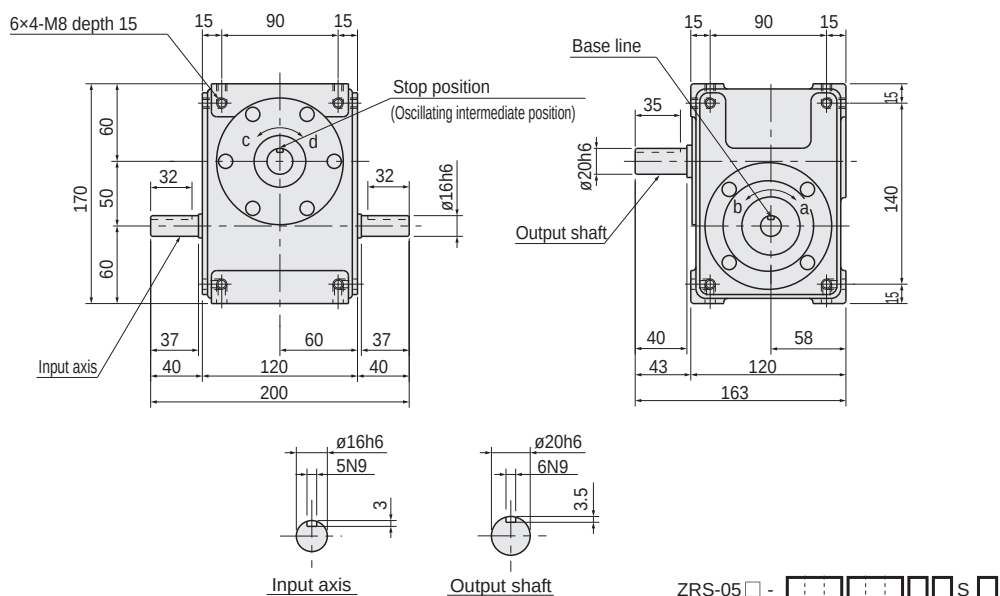
Index operation

Total allocated angle (θt)		90°	120°	150°	180°	210°	240°	270°	300°	330°
Indexing No. (n)										
		☆2	☆3	☆4	☆5	☆6	☆8	☆9	10	12
1 stationary	☆2									
	☆3									
	☆4									
	☆5									
	☆6									
	☆8									
	☆9									
	10									
2 stationary	12									
	☆16									
	☆18									
	20									
	24									

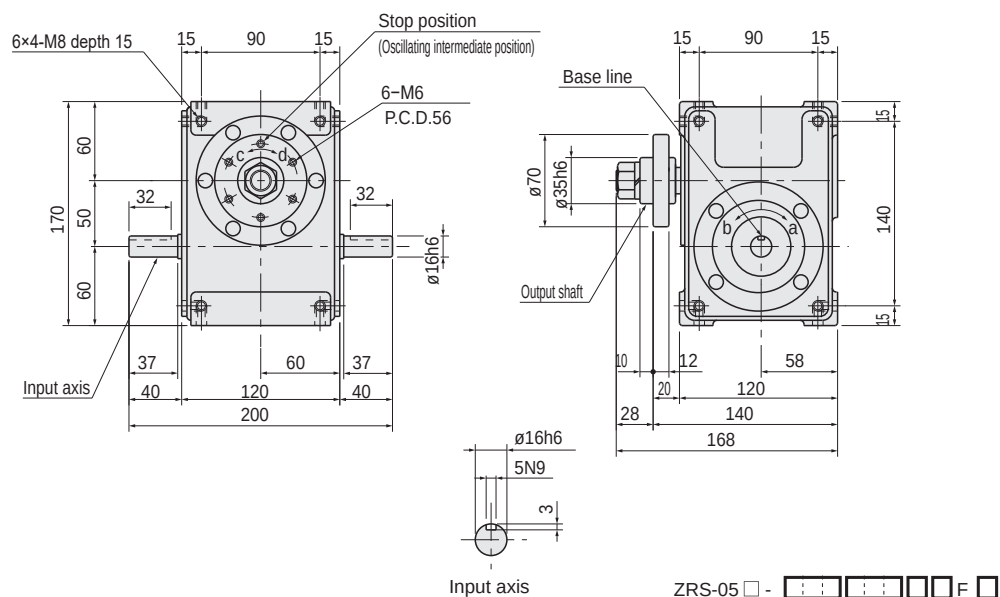
Oscillating operation

Total allocated angle (θt)		180°	240°	300°	360°
Oscillation angle (ψ)					
		★120°	★90°	★60°	★45°
	30°				

Dimensions (straight axis)



Dimensions (flange shaft)

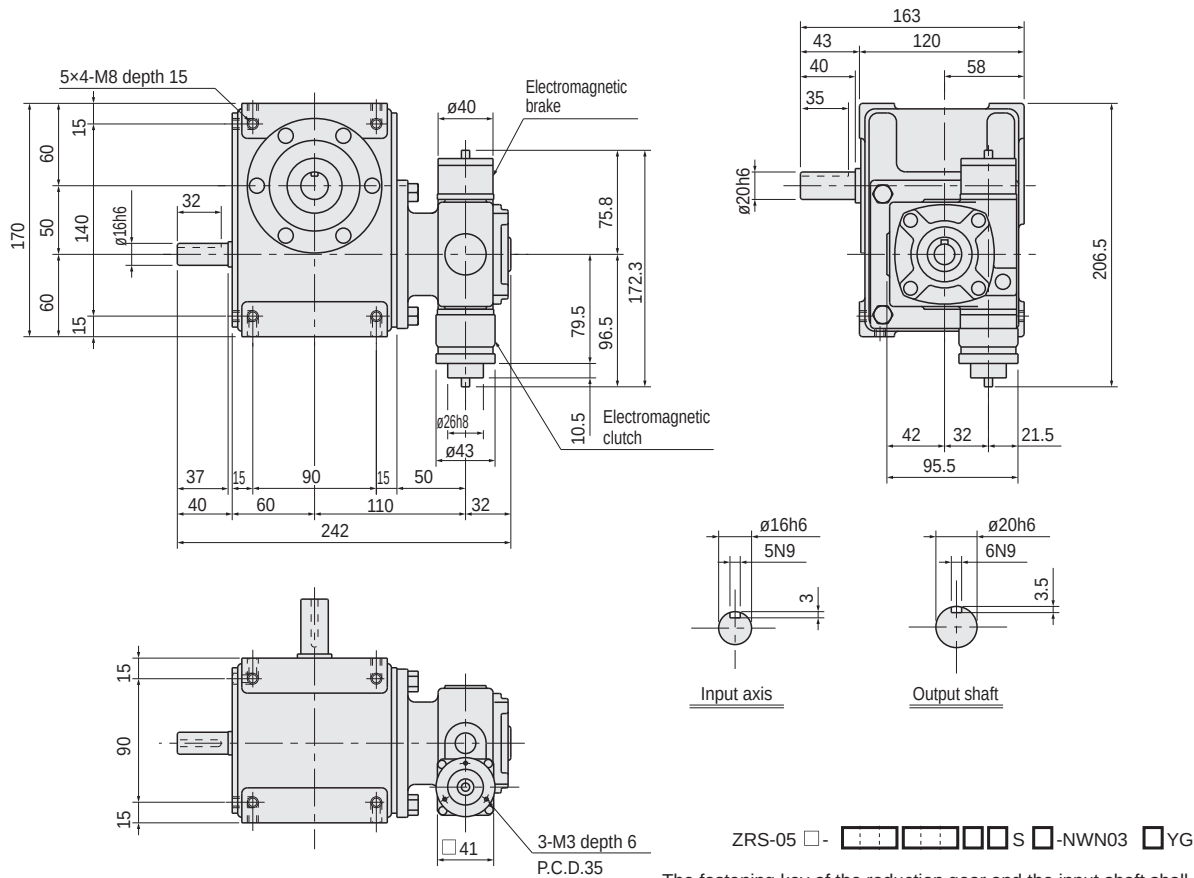


Mounting orientation and lubrication port/Oil level indicator position

Installation orientation	1	2	3
Dimensions			
			• Oil filler(Rc$\frac{1}{4}$) ○ Oil level indicator ($\phi 20$)
Installation orientation	4	5	6
Dimensions			
	Dimensions in () are for ZRS-05Y.		ZRS-05X ZRS-05Y

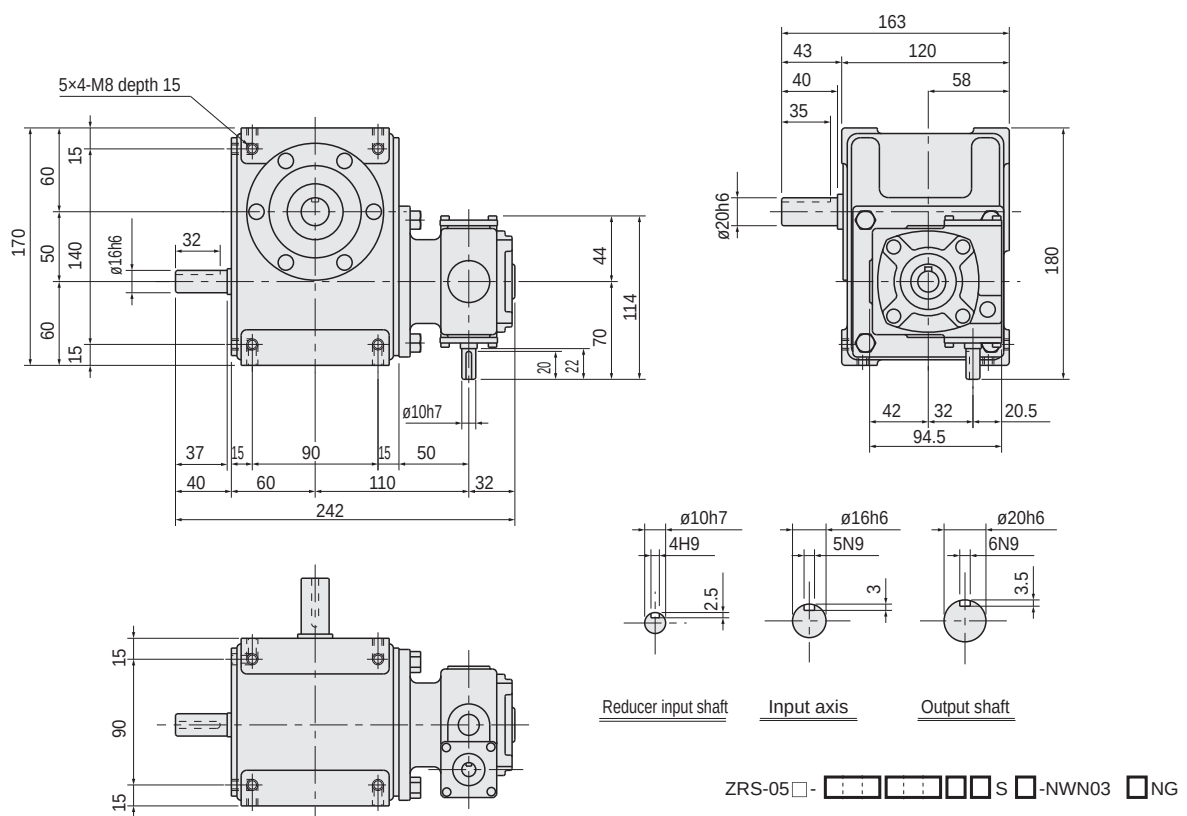
Optional dimensions

● With worm reducer (HO32-C/B)



The fastening key of the reduction gear and the input shaft shall be of old JIS1 type (JIS B1301-1959).

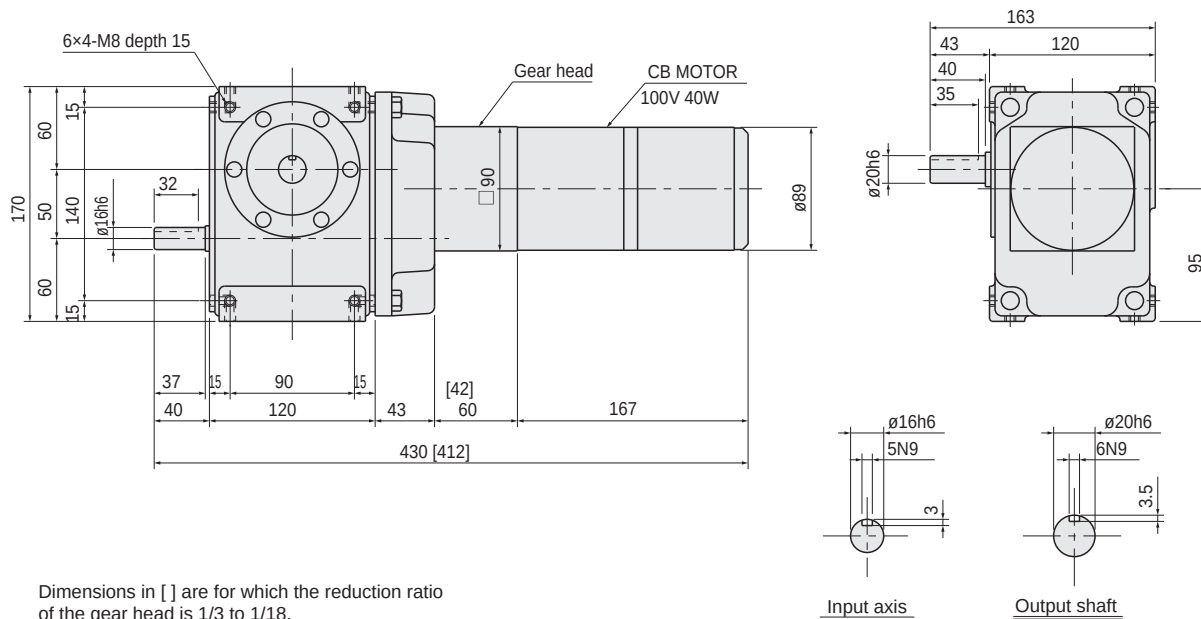
● With worm reducer (without HO32-C/B)



The fastening key of the reduction gear and the input shaft shall be of old JIS1 type (JIS B1301-1959).

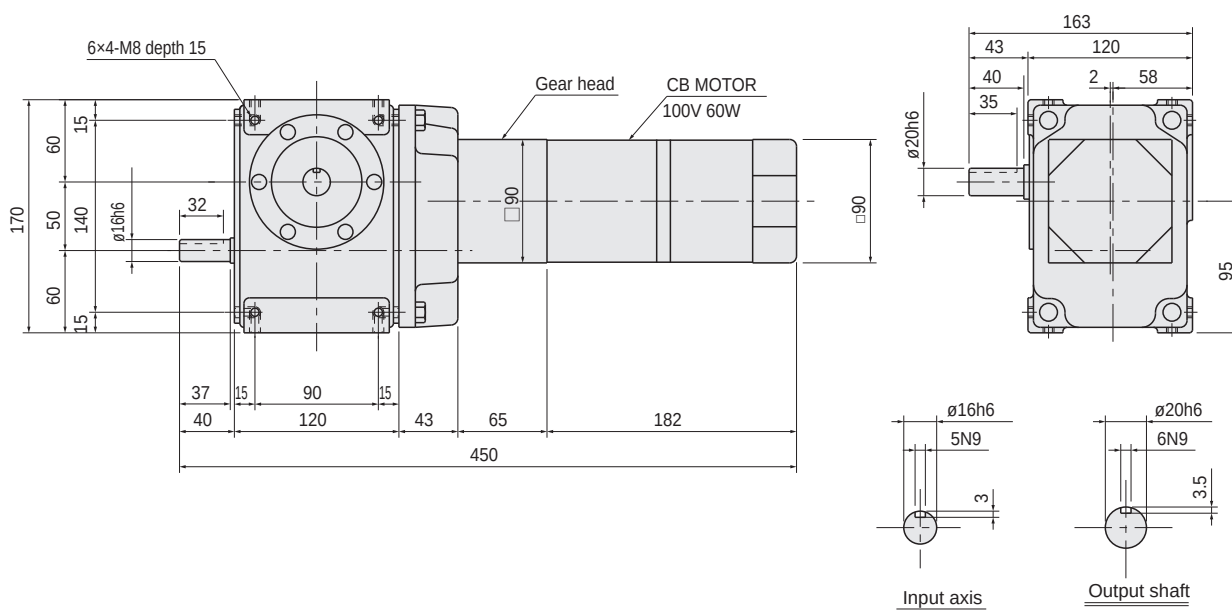
Optional dimensions

● Gear head + motor (with C/B 40 W)



ZRS-05 ☐ - ☐ ☐ ☐ ☐ ☐ S ☐ -NGNCDA ☐ G

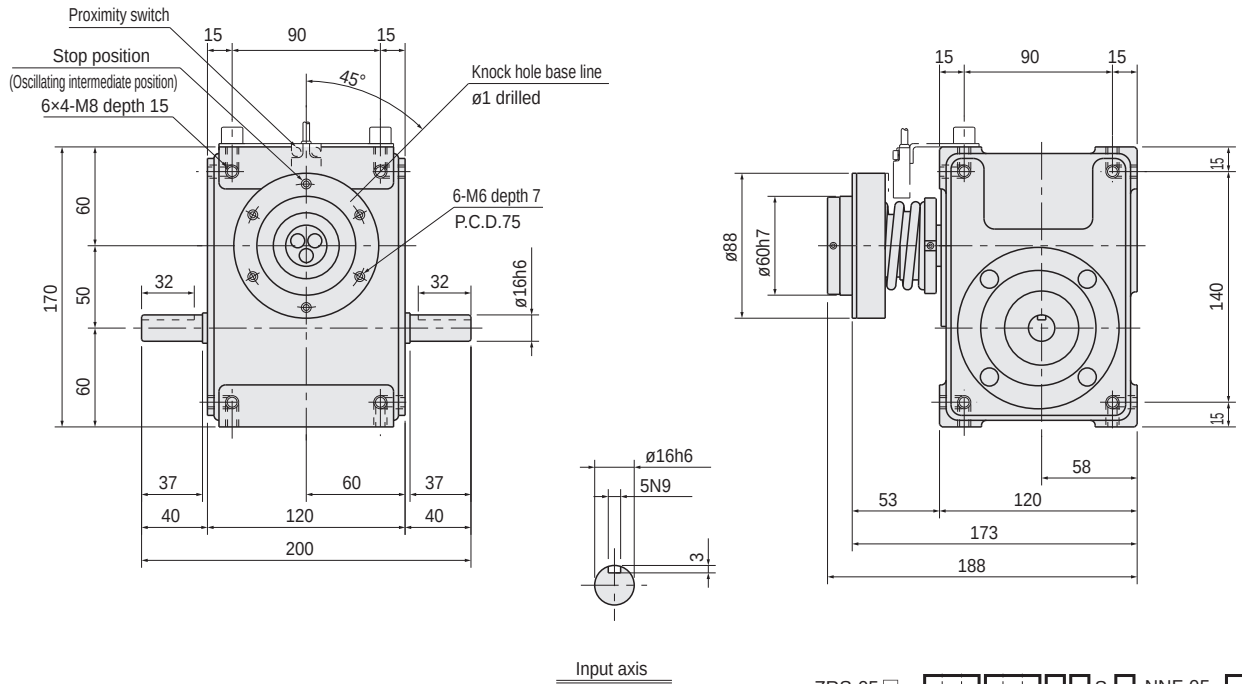
● Gear head + motor (with C/B 60 W)



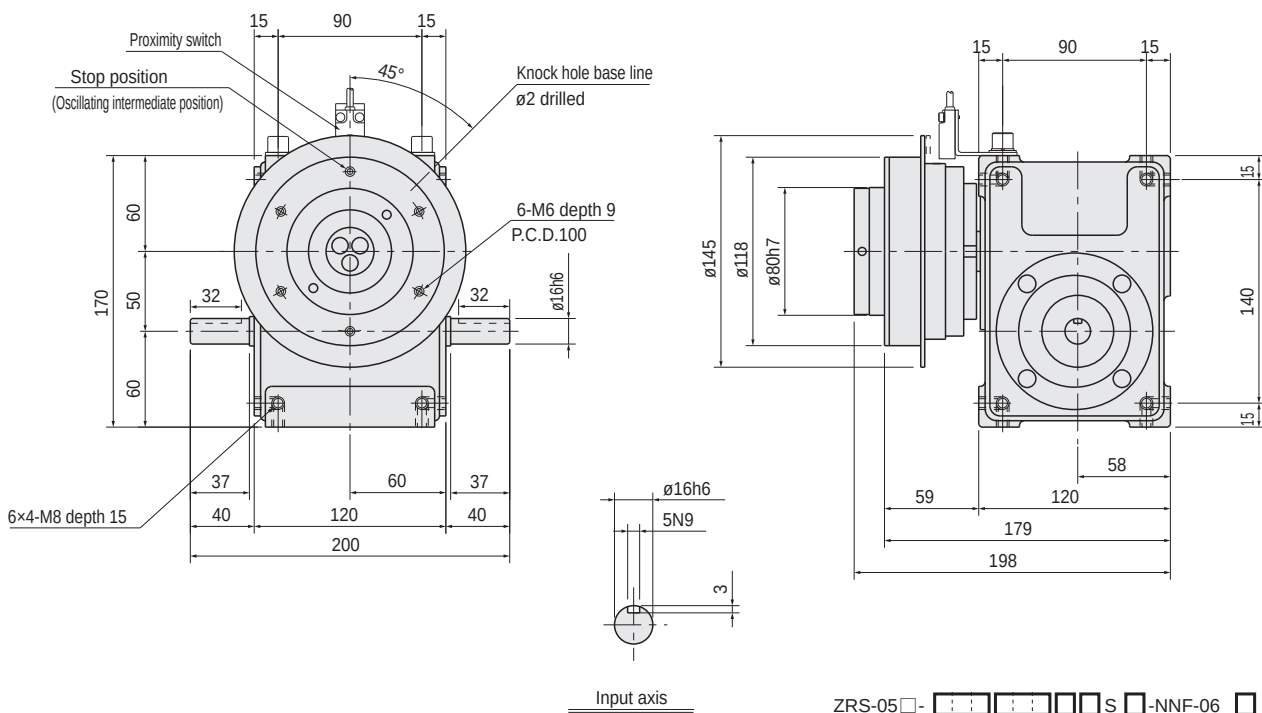
ZRS-05 ☐ - ☐ ☐ ☐ ☐ ☐ S ☐ -NGNCEA ☐ G

Optional dimensions

● With torque saver (TSF5)

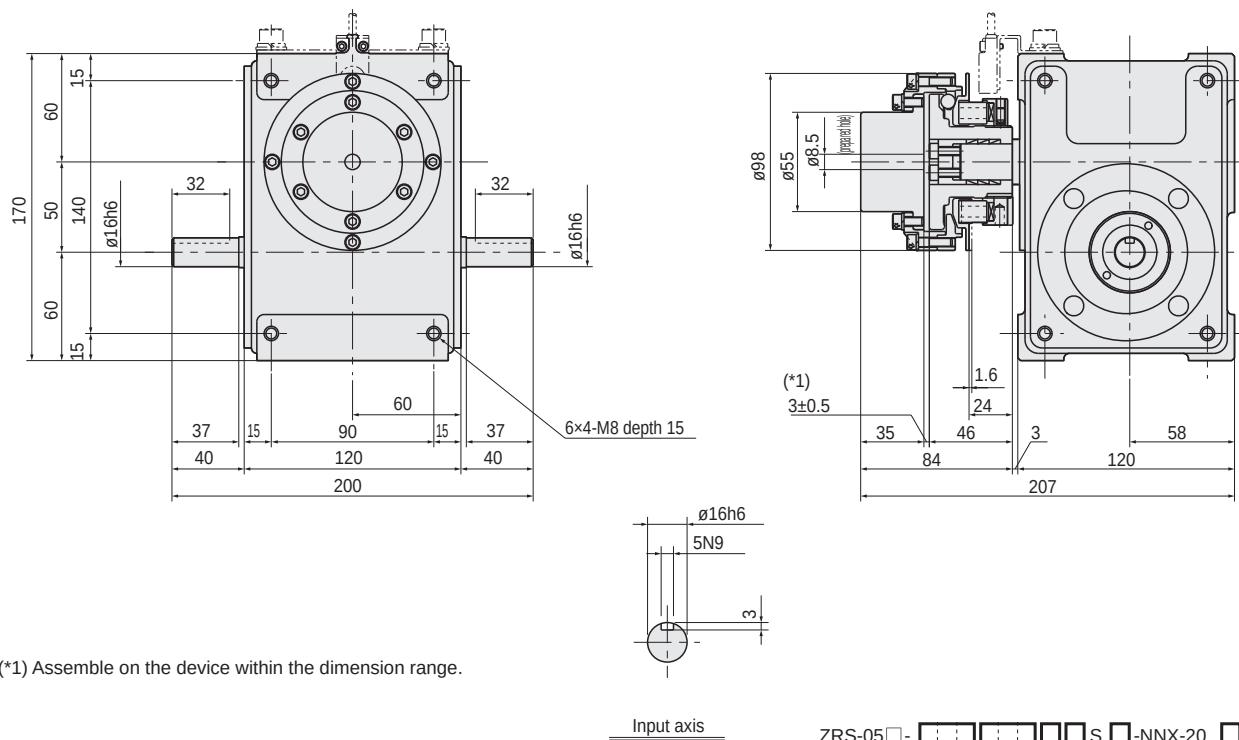


● With torque saver (TSF6)



Optional dimensions

● With torque guard (TGX20)



- With hollow shaft geared motor (0.1 kW)

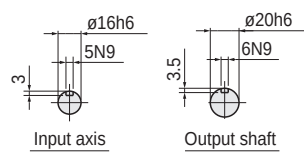
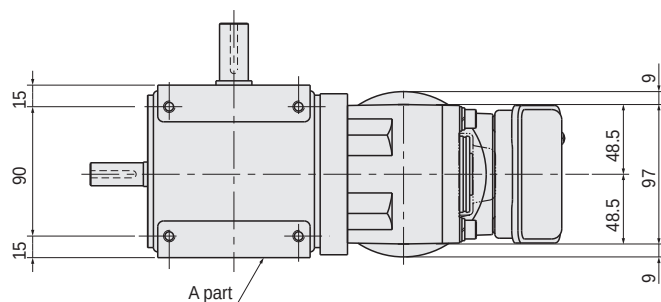
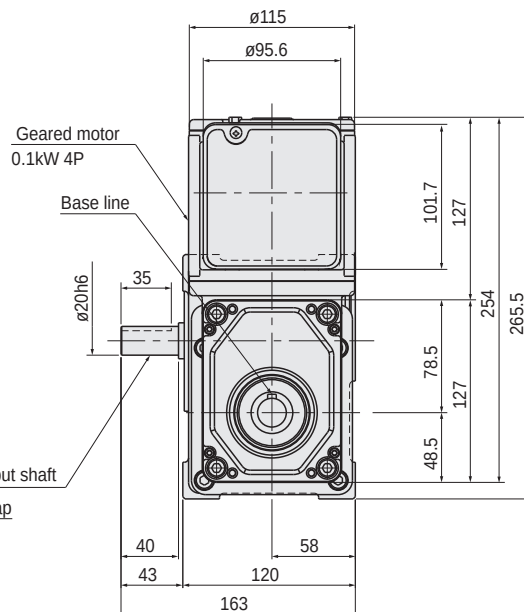
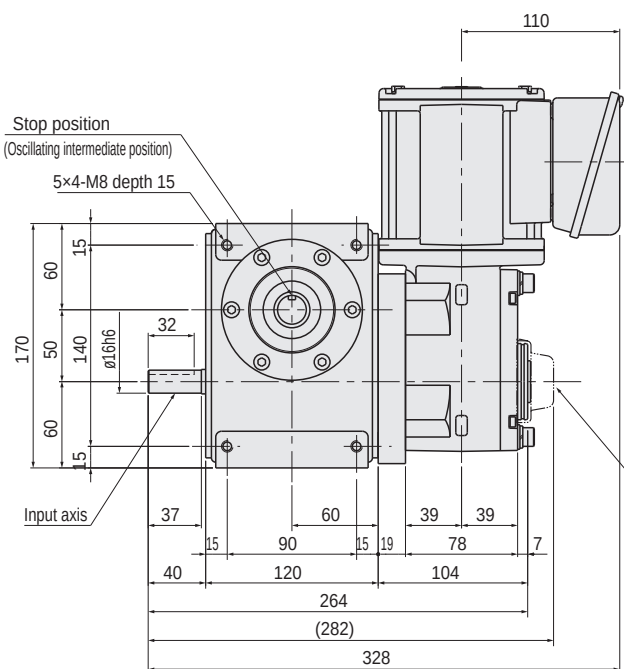
ZRS

Technical data

Option

Safety precautions

Model selection specifications
Check sheet

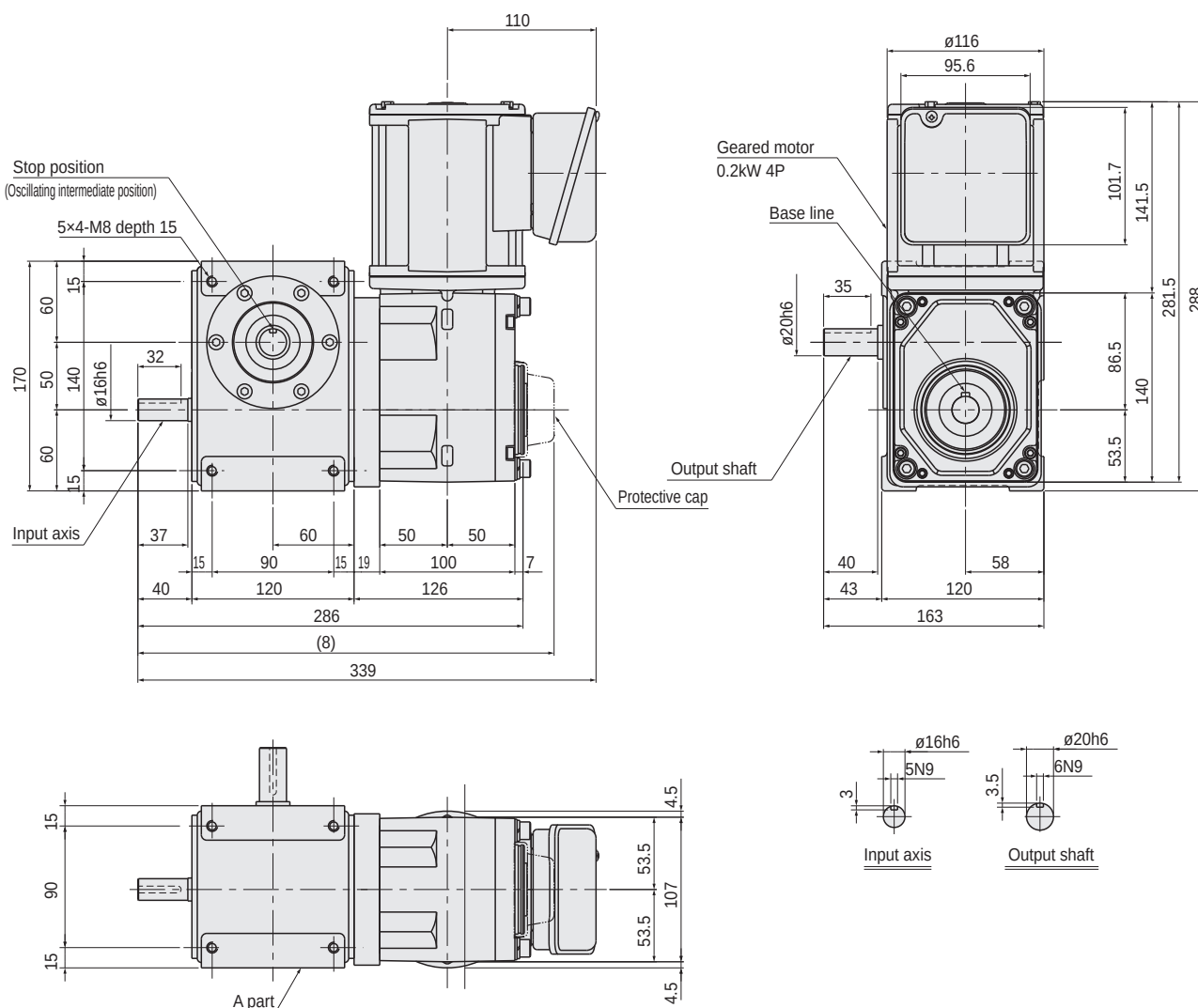


*The motor may protrude from the housing end (A part).

ZRS-05 ☐ - ☐ ☐ ☐ ☐ ☐ S ☐ -NHNGGS ☐ F

Optional dimensions

● With hollow shaft geared motor (0.2 kW)



*The motor may protrude from the housing end (A part).

ZRS-05 ☐ - ☐ ☐ ☐ ☐ ☐ ☐ S ☐ -NHNGHS ☐ F



Mechanical indexer Roller gear cam unit

ZRS-06

Distance between axes: 63mm

ZRS

Technical data

Option

Safety precautions

Model selection specifications
Check sheet

How to order

ZRS - **06** **X** - **004** **270** **S** **1** **S** **1** - Option
 ①Size ②Operation ③Indexing No. Oscillation angle ④Total allocated angle ⑤Cam curve ⑥Cam torsion Oscillation pattern ⑦Output shaft shape ⑧Installation orientation
 *Refer to page 87.

①Size	
06	Distance between axes 63mm

②Operation	
X	Index
Y	Oscillations

③Indexing No. (for indexing)			
002	2	012	12
003	3	016	16
004	4	018	18
005	5	020	20
006	6	024	24
008	8		
009	9		
010	10		

③Oscillation angle (for oscillations)			
030	30°	090	90°
045	45°	120	120°
060	60°		

④Total indexing angle (for indexes)			
090	90°	240	240°
120	120°	270	270°
150	150°	300	300°
180	180°	330	330°
210	210°		

④Total allocated angle (in the case of oscillations)			
180	180°(90°x 2)	300	300°(150°x 2)
240	240°(120°x 2)	360	360°(180°x 2)

⑤Cam curve	
S	MS curve

⑥Cam torsion (for index)	
Refer to page 2	
⑥Oscillating pattern (oscillating)	
Refer to page 2	

⑦Output shaft shape	
S	Straight
F	Flange

⑧Installation orientation	
Refer to page 3.	

Specifications

Indexing accuracy (Index)	Seconds	1 stationary	±30
		2 stationary	±90
Indexing accuracy (oscillating)	Seconds		±90
Repeatability	Seconds		15
Allowable thrust force	N	Output shaft	3000
		Input axis	2000
Allowable radial force	N	Output shaft	3000
		Input axis	1600
Allowable bending moment	N·m	Output shaft	100
Moment of inertia	kg·m ²	Output shaft	6.99 x 10 ⁻⁴ (1.12 x 10 ⁻³)
		Input axis	8.09 x 10 ⁻⁴
Internal friction torque	N·m		4.8
Body weight	kg		18
Oil amount	ℓ		0.8

* Values in () are for ⑦ output shaft shape F: flange.
 * Contact CKD for stopping accuracy.

Allocation angle list

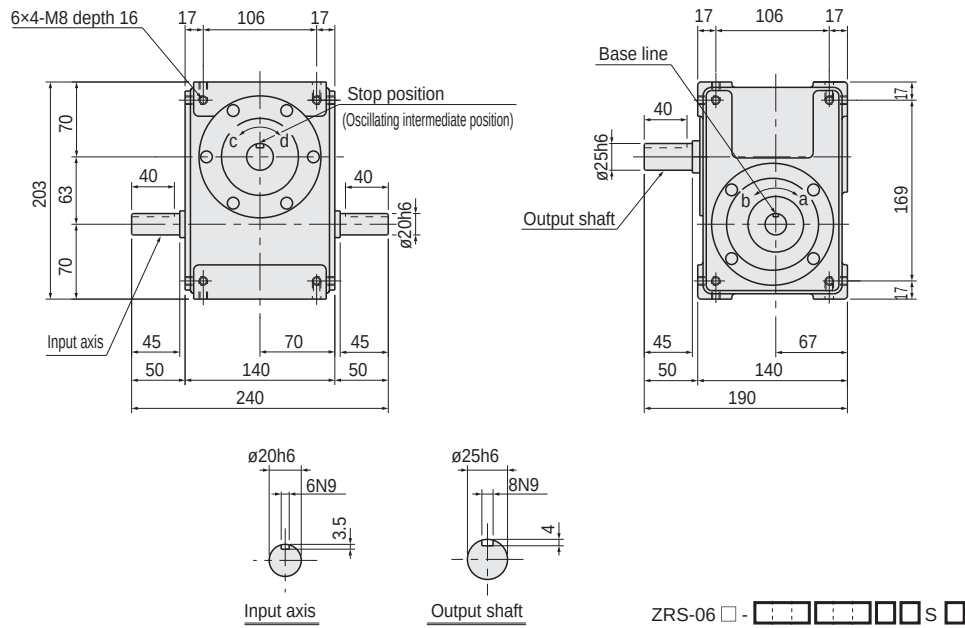
Index operation

Total allocated angle (θt)		90°	120°	150°	180°	210°	240°	270°	300°	330°
Indexing No. (n)										
1 stationary	2							○	○	○
	3				○	○	○	○	○	○
	4			○	○	○	○	○	○	○
	5		○	○	○	○	○	○	○	○
	6	○	○	○	○	○	○	○	○	○
	8	○	○	○	○	○	○	○	○	○
	9	○	○	○	○	○	○	○	○	○
	10	○	○	○	○	○	○	○	○	○
	12	○	○	○	○	○	○	○	○	○
2 stationary	16		○	○	○	○	○	○	○	○
	18		○	○	○	○	○	○	○	○
	20	○	○	○	○	○	○	○	○	○
	24	○	○	○	○	○	○	○	○	○

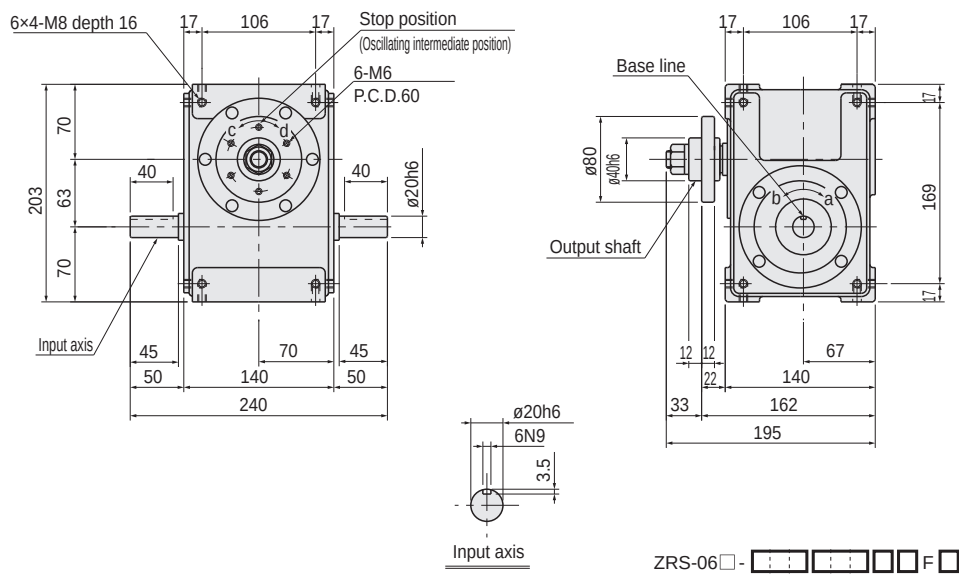
Oscillating operation

Total allocated angle (θt)	180°	240°	300°	360°
Oscillation angle (ψ)				
120°				
90°				
60°				
45°				
30°				

Dimensions (straight axis)



Dimensions (flange shaft)

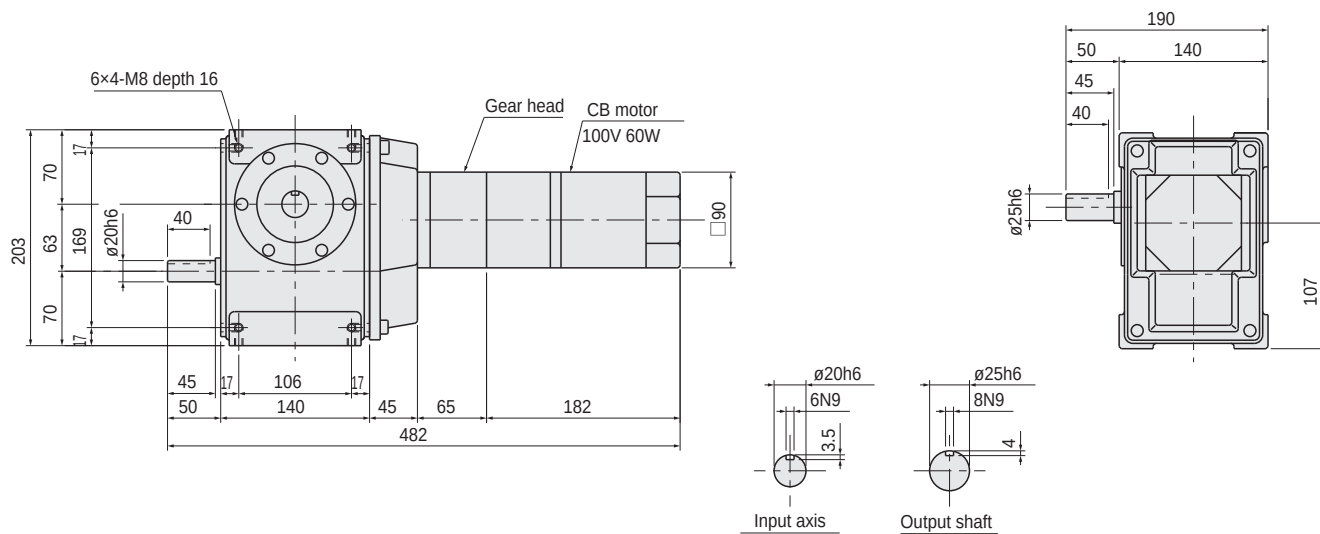


Mounting orientation and lubrication port/Oil level indicator position

Installation orientation	1	2	3
Dimensions			Dimensions in () are for ZRS-06Y.
			• Lubrication port (Rc$\frac{1}{4}$) ○ Oil level indicator ($\varnothing 20$)
Installation orientation	4	5	6
Dimensions	Dimensions in () are for ZRS-06Y.		ZRS-06X
			ZRS-06Y

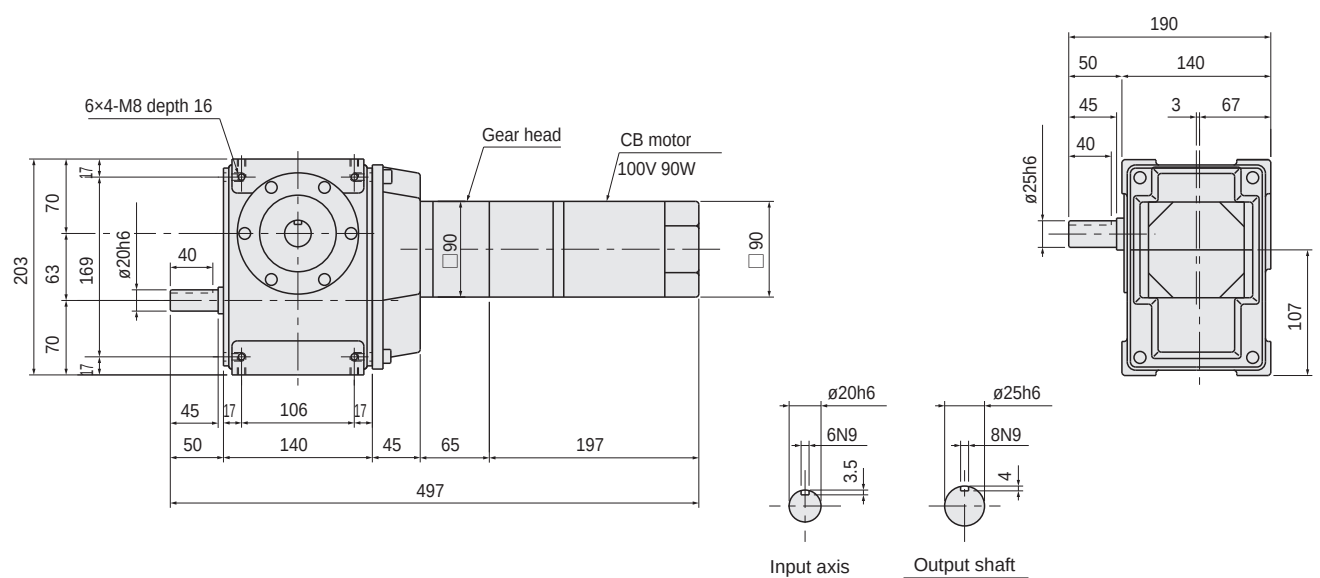
Optional dimensions

● Gear head + motor (with C/B 60 W)



ZRS-06 ☐ - ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ S ☐ -NGNCEA ☐ G

● Gear head + motor (with C/B 90 W)



ZRS-06 ☐ - ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ S ☐ -NGNCFA ☐ G

ZRS

Technical data

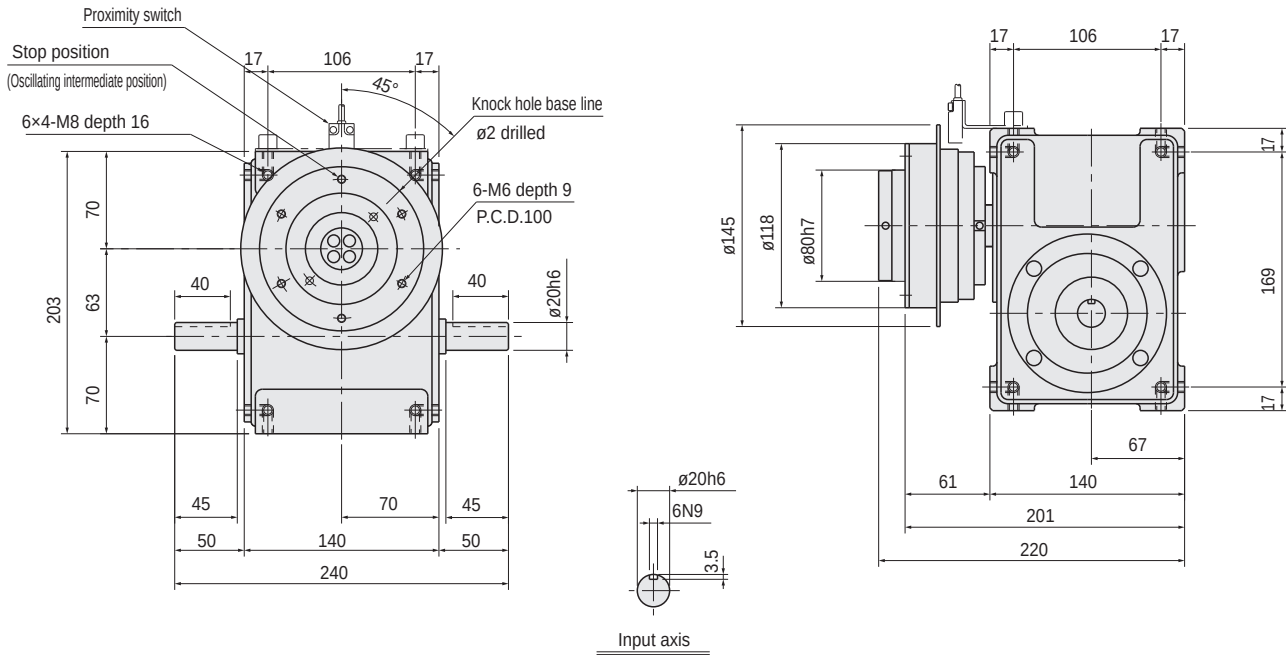
Option

Safety precautions

Model selection specifications
Check sheet

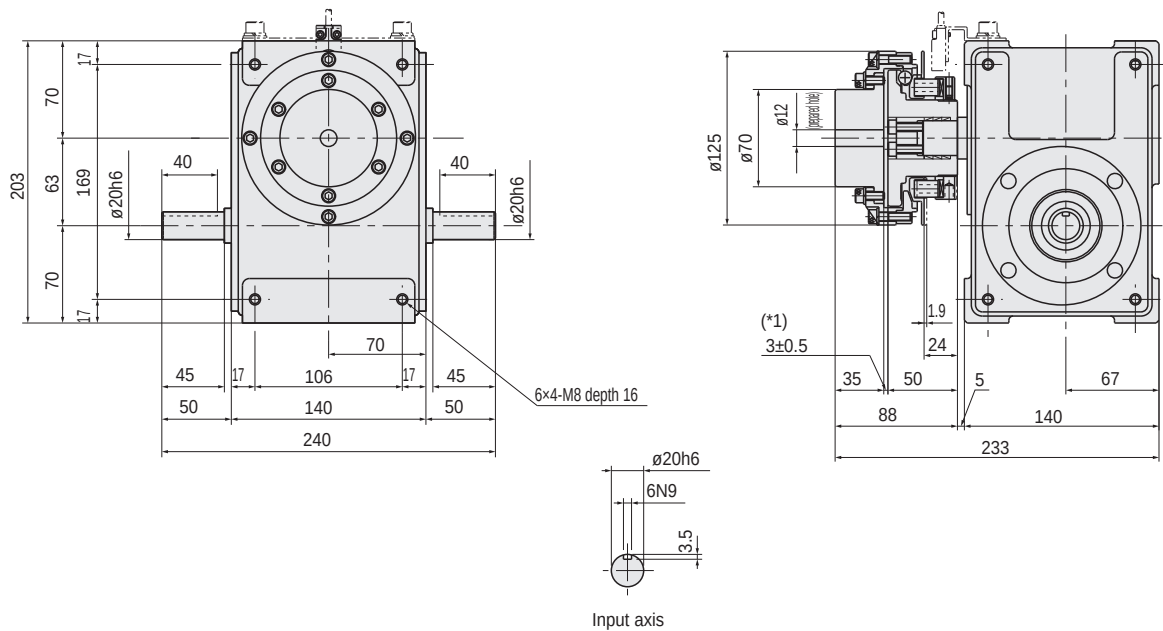
Optional dimensions

● With torque saver (TSF6)



ZRS-06 □ - □ □ □ □ □ □ S □ -NNF-06 □

● With torque guard (TGX35)

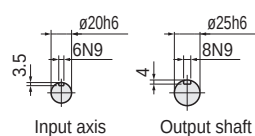
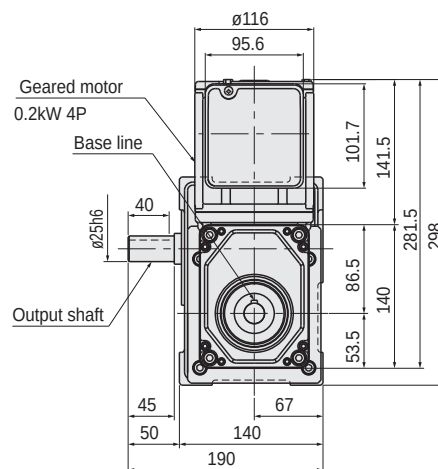
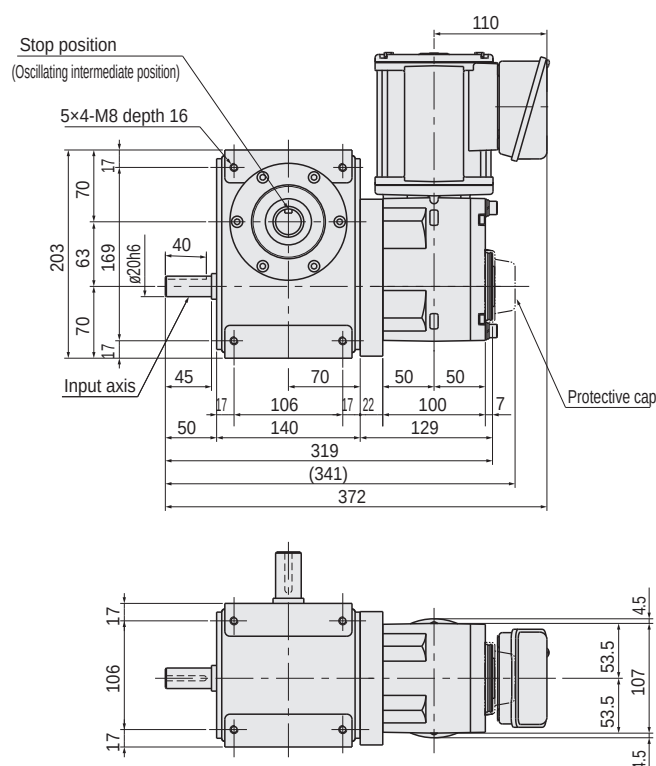


ZRS-06 □ - □ □ □ □ □ □ S □ -NNX-35 □

(*1) Assemble on the device within the dimension range.

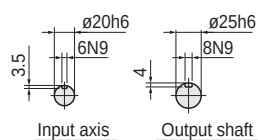
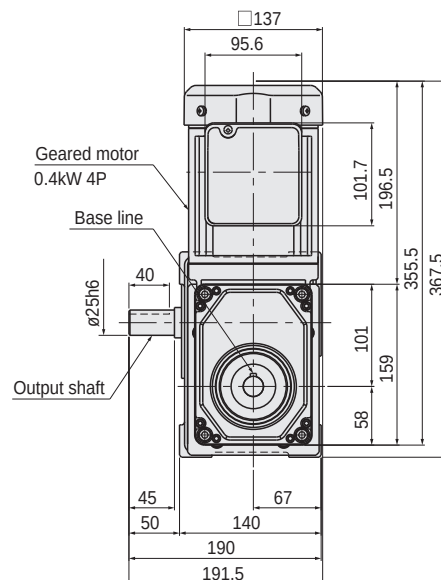
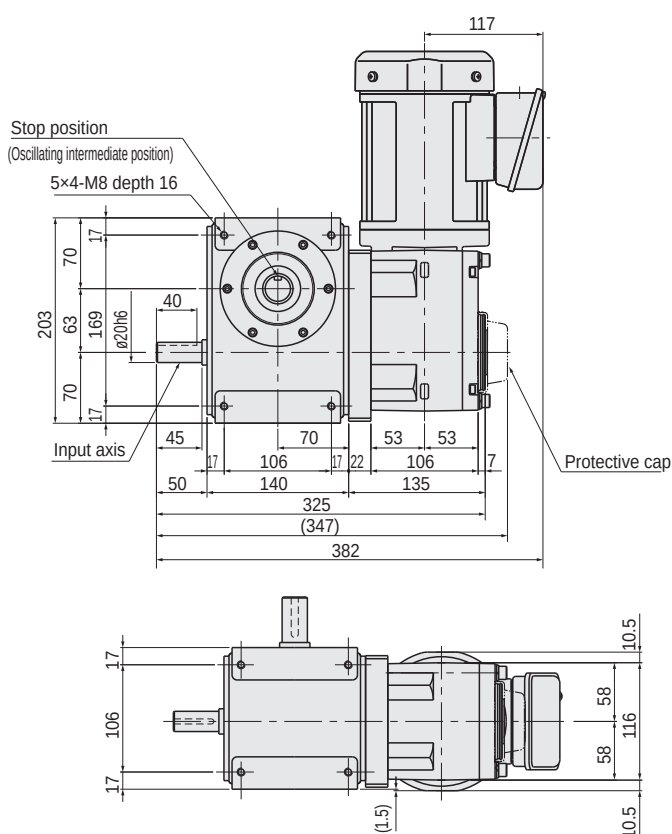
Optional dimensions

● With hollow shaft geared motor (0.2 kW)



ZRS-06 ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ S ☐ -NHNGHS ☐ F

● With hollow shaft geared motor (0.4 kW)



ZRS-06 ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ S ☐ -NHNGJS ☐ F



Mechanical indexer Roller gear cam unit

ZRS-08

Distance between axes: 80mm

ZRS

Technical data

Option

Safety precautions

Model selection specifications
Check sheet

How to order

ZRS - **08** **X** - **004** **270** **S** **1** **S** **1** - Option
 ①Size ②Operation ③Indexing No. Oscillation angle ④Total allocated angle ⑤Cam curve ⑥Cam torsion Oscillation pattern ⑦Output shaft shape ⑧Installation orientation
 *Refer to page 87.

①Size	
08	Distance between axes 80mm

②Operation	
X	Index
Y	Oscillations

③Indexing No. (for indexing)			
002	2	012	12
003	3	015	15
004	4	016	16
005	5	018	18
006	6	020	20
008	8	024	24
009	9	030	30
010	10	032	32
⑤Oscillation angle (for oscillations)			
030	30°	090	90°
045	45°	120	120°
060	60°		

④Total indexing angle (for indexes)			
090	90°	240	240°
120	120°	270	270°
150	150°	300	300°
180	180°	330	330°
210	210°		

④Total allocated angle (in the case of oscillations)			
180	180°(90°x 2)	300	300°(150°x 2)
240	240°(120°x 2)	360	360°(180°x 2)

⑤Cam curve	
S	MS curve

⑥Cam torsion (for index)	
Refer to page 2	
⑥Oscillating pattern (oscillating)	
Refer to page 2	

⑦Output shaft shape	
S	Straight
F	Flange

⑧Installation orientation	
Refer to page 3.	

Specifications

Indexing accuracy (Index)	Seconds	1 stationary	±30
		2 stationary	±60
Indexing accuracy (oscillating)	Seconds		±60
Repeatability	Seconds		15
Allowable thrust force	N	Output shaft	3500
		Input axis	2500
Allowable radial force	N	Output shaft	3800 (4500)
		Input axis	2700
Allowable bending moment	N·m	Output shaft	150 (200)
Moment of inertia	kg·m ²	Output shaft	1.95 x 10 ⁻³ (3.07 x 10 ⁻³)
		Input axis	3.14 x 10 ⁻³
Internal friction torque	N·m		7.8
Body weight	kg		32
Oil amount	ℓ		1.2

* Values in () are for ⑦ output shaft shape F: flange.
 * Contact CKD for stopping accuracy.

Allocation angle list

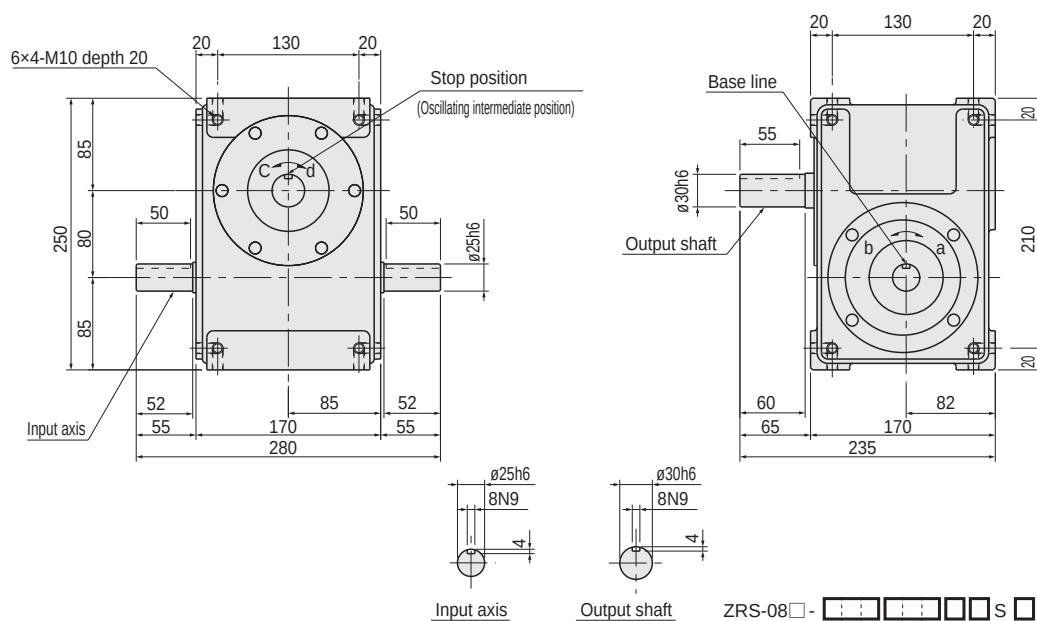
Index operation

Total allocated angle (θt)	Indexing No. (n)	90°	120°	150°	180°	210°	240°	270°	300°	330°
1 stationary	2							○	○	○
	3				○	○	○	○	○	○
	4			○	○	○	○	○	○	○
	5		○	○	○	○	○	○	○	○
	6	○	○	○	○	○	○	○	○	○
	8	○	○	○	○	○	○	○	○	○
	9	○	○	○	○	○	○	○	○	○
	10	○	○	○	○	○	○	○	○	○
	12	○	○	○	○	○	○	○	○	○
	15	○	○	○	○	○	○	○	○	○
2 stationary	16	○	○	○	○	○	○	○	○	○
	18		○	○	○	○	○	○	○	○
	20	○	○	○	○	○	○	○	○	○
	24	○	○	○	○	○	○	○	○	○
	30	○	○	○	○	○	○	○	○	○
	32	○	○	○	○	○	○	○	○	○

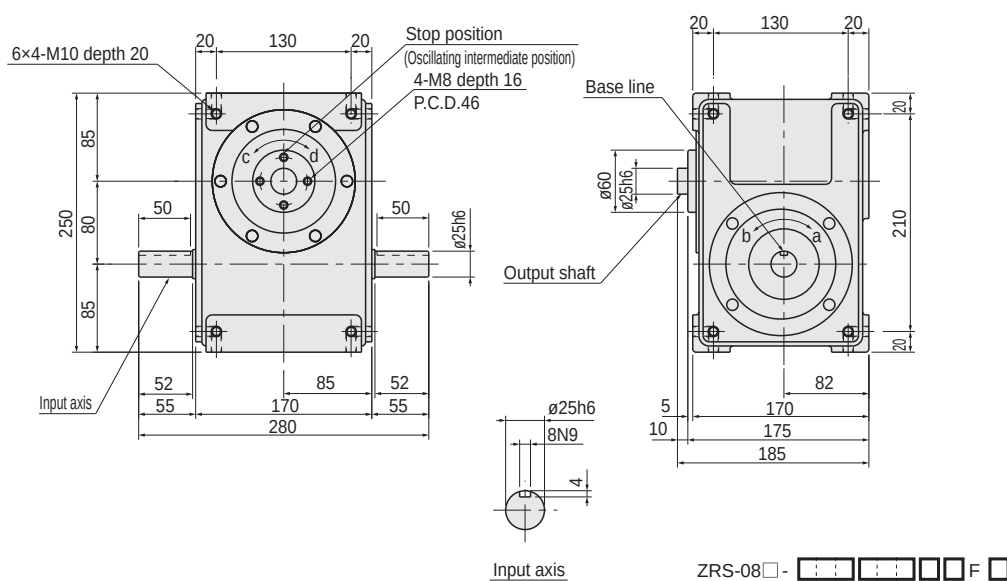
Oscillating operation

Total allocated angle (θt)	Oscillation angle (ψ)	180°	240°	300°	360°
120°				○	
90°			○	○	
60°	○	○	○	○	
45°	○	○	○	○	
30°	○	○	○	○	

Dimensions (straight axis)



Dimensions (flange shaft)

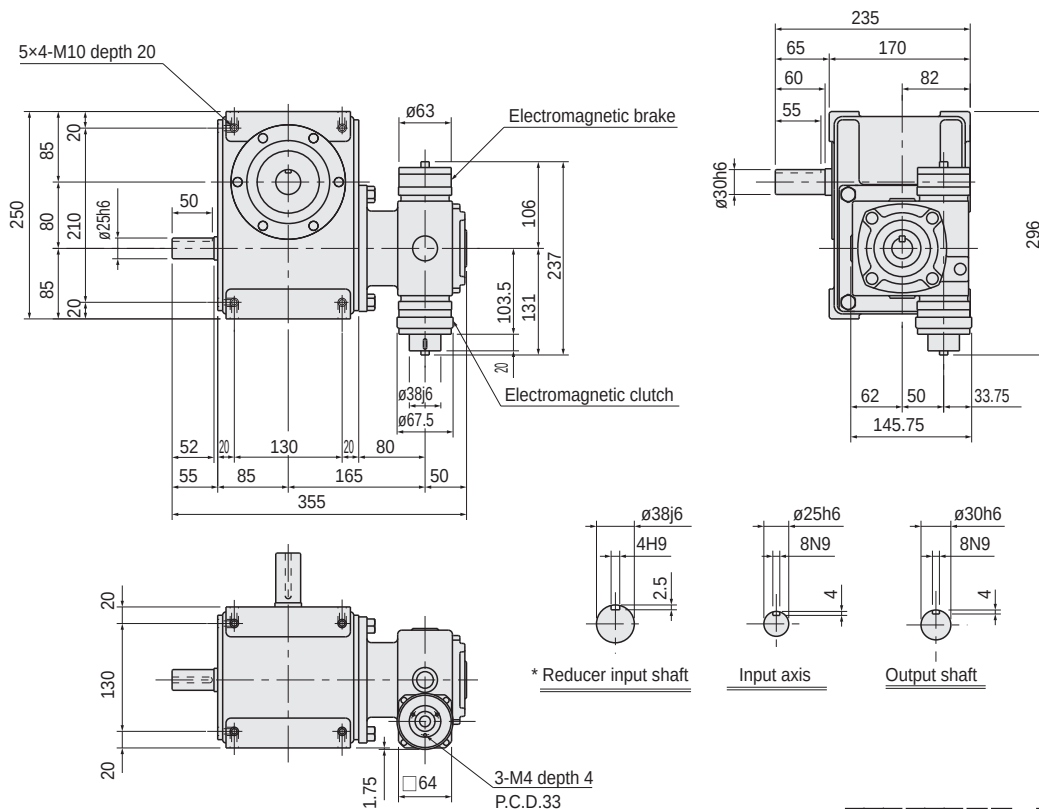


Mounting orientation and lubrication port/Oil level indicator position

Installation orientation	1	2	3
Dimensions			
			• Oil filler (Rc$\frac{1}{4}$) ○ Oil level indicator ($\phi 30$)
Installation orientation	4	5	6
Dimensions			
	Dimensions in () are for ZRS-08Y.		ZRS-08X ZRS-08Y

Optional dimensions

● With worm reducer (HO50-C/B)

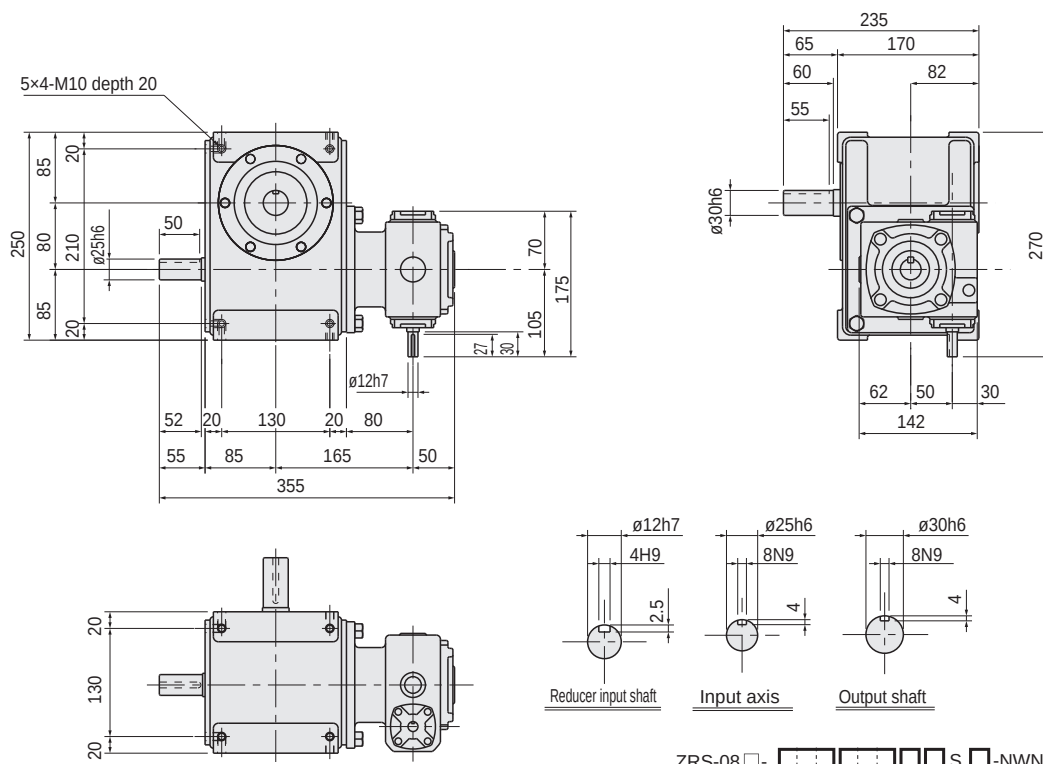


*The positional relationship between the key groove and the 3-M4 screw is arbitrary.

The fastening key of the reduction gear and the input shaft shall be of old JIS1 type (JIS B1301-1959).

ZRS-08□-□□□□□□□□ S □-NWN05 □ YG

● With worm reducer (without HO50-C/B)

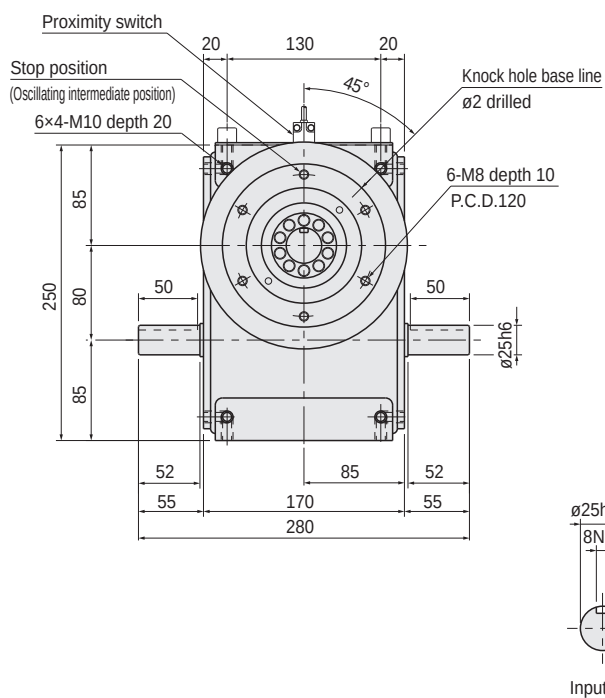


The fastening key of the reduction gear and the input shaft shall be of old JIS1 type (JIS B1301-1959).

ZRS-08□-□□□□□□□□ S □-NWN05 □ NG

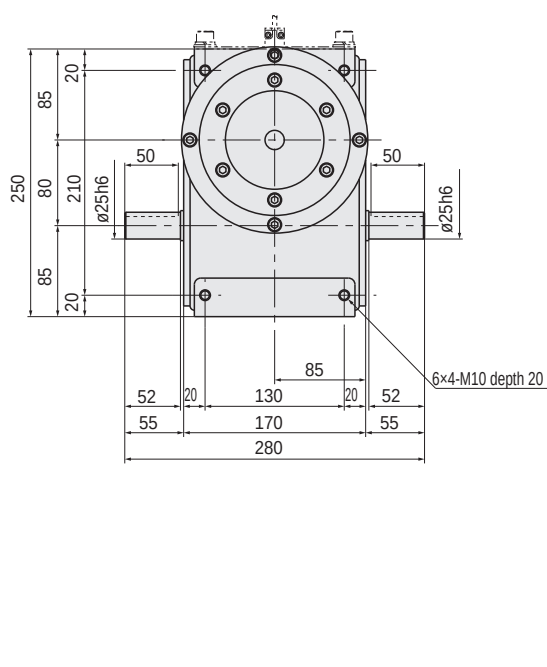
Optional dimensions

● With torque saver (TSF8)



ZRS-08 ☐ - ☐ ☐ ☐ ☐ ☐ S ☐ -NNF-08 ☐

● With torque guard (TGX50)

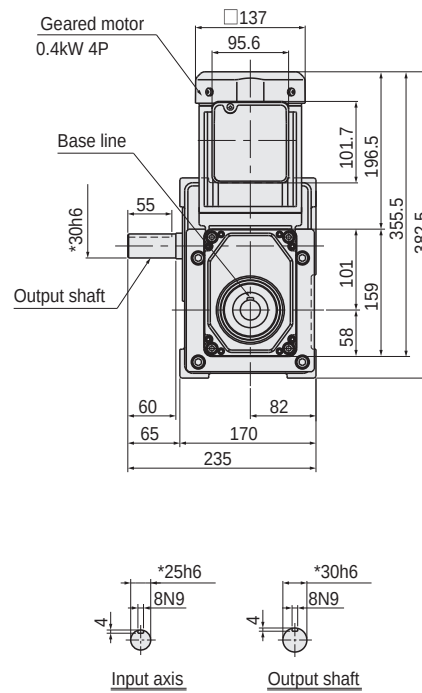
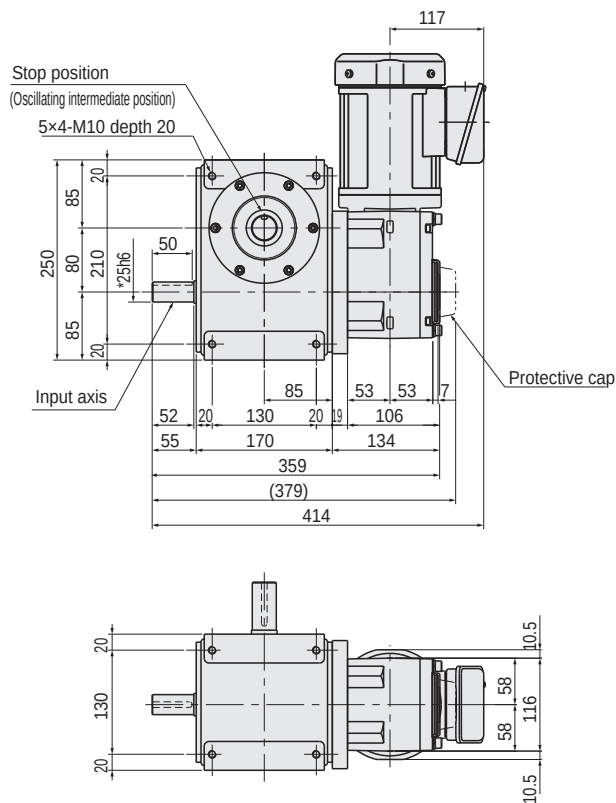


ZRS-08 ☐ - ☐ ☐ ☐ ☐ ☐ S ☐ -NNX-50 ☐

(*1) Assemble on the device within the dimension range.

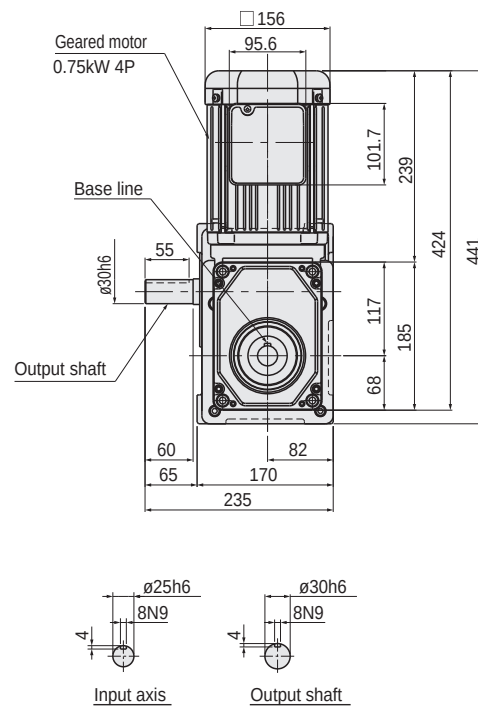
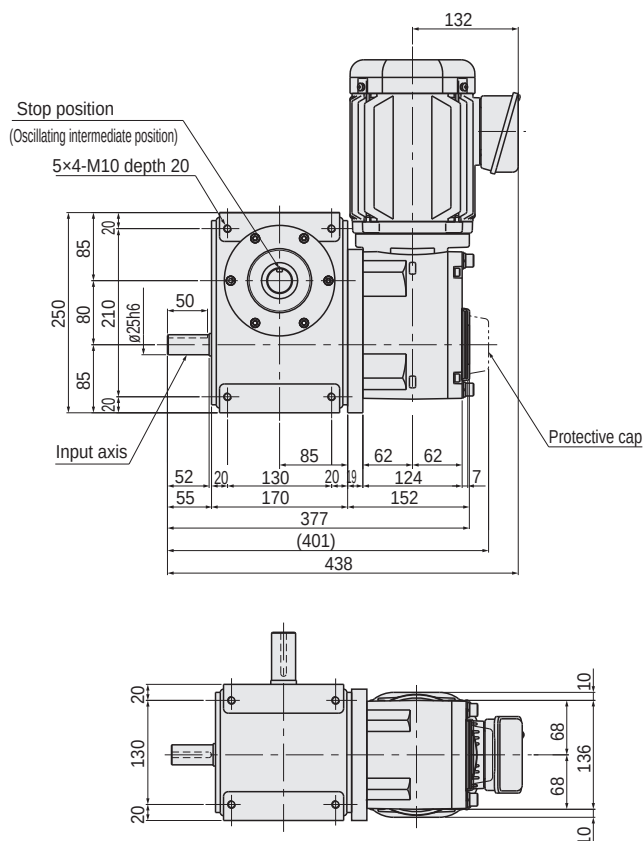
Optional dimensions

● With hollow shaft geared motor (0.4 kW)



ZRS-08 □ - □ □ □ □ □ □ S □ -NHNGJS □ F

● With hollow shaft geared motor (0.75 kW)



ZRS-08 □ - □ □ □ □ □ □ S □ -NHNGKS □ F

MEMO

ZRS
Technical data
Option
Safety precautions
Model selection specifications Check sheet



Mechanical indexer Roller gear cam unit

ZRS-11

Distance between axes: 110mm

ZRS

Technical data

Option

Safety precautions

Model selection specifications
Check sheet

How to order

ZRS - 11 X - 004 270 S 1 S 1 - Option
 ①Size ②Operation ③Indexing No. Oscillation angle ④Total allocated angle ⑤Cam curve ⑥Cam torsion Oscillation pattern ⑦Output shaft shape ⑧Installation orientation
 *Refer to page 87.

①Size	
11	Distance between axes 110mm

②Operation	
X	Index
Y	Oscillations

③Indexing No. (for indexing)			
002	2	012	12
003	3	015	15
004	4	016	16
005	5	018	18
006	6	020	20
008	8	024	24
009	9	030	30
010	10	032	32
④Oscillation angle (for oscillations)			
030	30°	090	90°
045	45°	120	120°
060	60°		

④Total indexing angle (for index)			
090	90°	240	240°
120	120°	270	270°
150	150°	300	300°
180	180°	330	330°
210	210°		

④Total allocated angle (for oscillations)			
180	180°(90°x 2)	300	300°(150°x 2)
240	240°(120°x 2)	360	360°(180°x 2)

⑤Cam curve	
S	MS curve

⑥Cam torsion (for index)	
Refer to page 2	

⑥Oscillating pattern (for oscillations)	
Refer to page 2	

⑦Output shaft shape	
S	Straight
F	Flange

⑧Installation orientation	
Refer to page 3.	

Specifications

Indexing accuracy (Index)	Seconds	1 stationary	±30
		2 stationary	±60
Indexing accuracy (oscillating)		Seconds	±60
Repeatability		Seconds	15
Allowable thrust force	N	Output shaft	4900
		Input axis	3500
Allowable radial force	N	Output shaft	6200 (6800)
		Input axis	3600
Allowable bending moment	N·m	Output shaft	180 (350)
Moment of inertia	kg·m ²	Output shaft	8.92 x 10 ⁻³ (1.38 x 10 ⁻²)
		Input axis	1.36 x 10 ⁻²
Internal friction torque		N·m	15
Body weight		kg	60
Oil amount		ℓ	3.8

* Values in () are for ⑦ output shaft shape F: flange.

* Contact CKD for stopping accuracy.

Allocation angle list

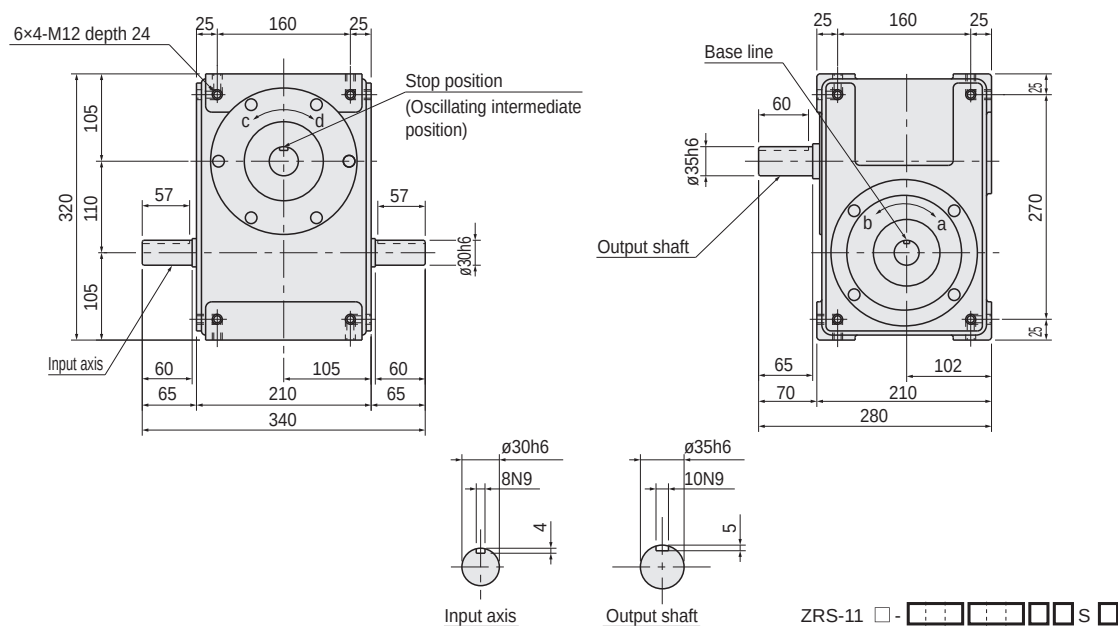
Index operation

Total allocated angle (θt)		Indexing No. (n)								
		90°	120°	150°	180°	210°	240°	270°	300°	330°
1 stationary	2							○	○	○
	3				○	○	○	○	○	○
	4			○	○	○	○	○	○	○
	5		○	○	○	○	○	○	○	○
	6	○	○	○	○	○	○	○	○	○
	8	○	○	○	○	○	○	○	○	○
	9	○	○	○	○	○	○	○	○	○
	10	○	○	○	○	○	○	○	○	○
	12	○	○	○	○	○	○	○	○	○
	15	○	○	○	○	○	○	○	○	○
2 stationary	16	○	○	○	○	○	○	○	○	○
	18		○	○	○	○	○	○	○	○
	20	○	○	○	○	○	○	○	○	○
	24	○	○	○	○	○	○	○	○	○
	30	○	○	○	○	○	○	○	○	○
	32	○	○	○	○	○	○	○	○	○

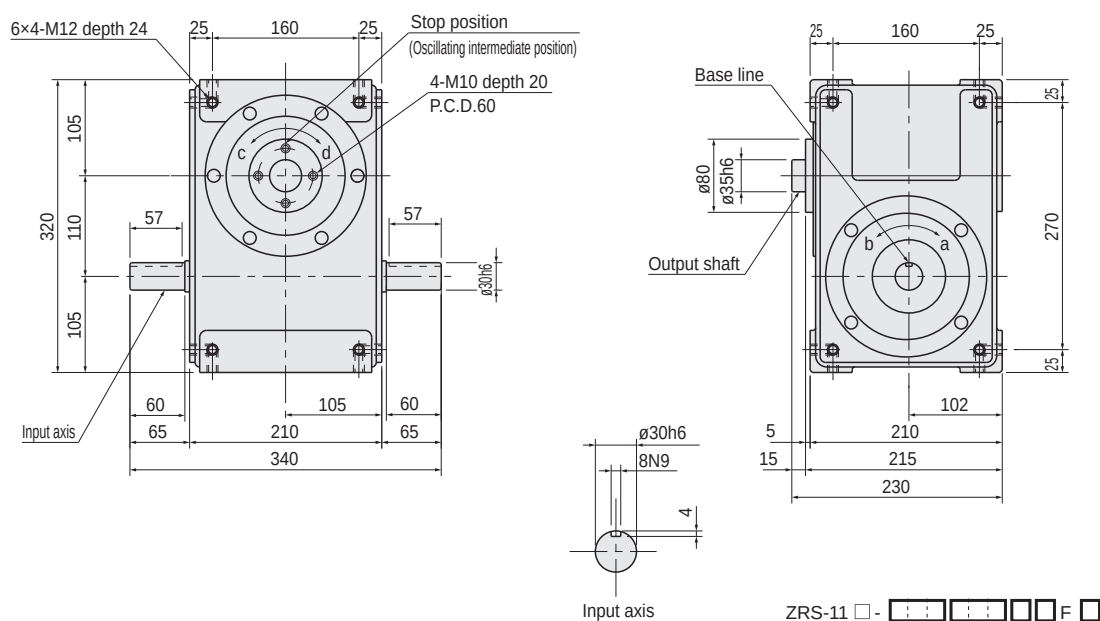
Oscillating operation

Total allocated angle (θt)		Oscillation angle (ψ)			
		180°	240°	300°	360°
120°					○
90°				○	○
60°		○	○	○	○
45°		○	○	○	○
30°		○	○	○	○

Dimensions (straight axis)



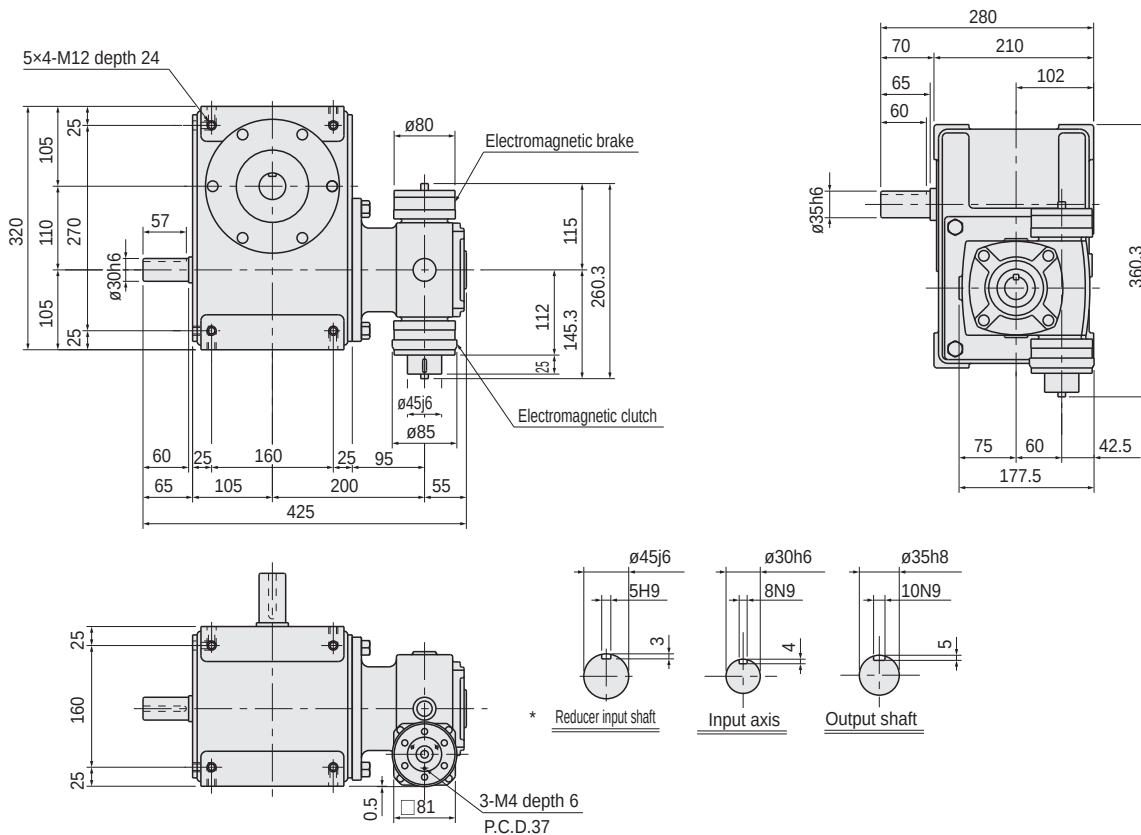
Dimensions (flange shaft)



Mounting orientation and lubrication port/Oil level indicator position

Installation orientation	1	2	3
Dimensions			
			• Oil filler (Rc$\frac{1}{8}$) ○ Oil level indicator ($\phi 30$)
Installation orientation	4	5	6
Dimensions			ZRS-11X ZRS-11Y

● With worm reducer (HO60-C/B)

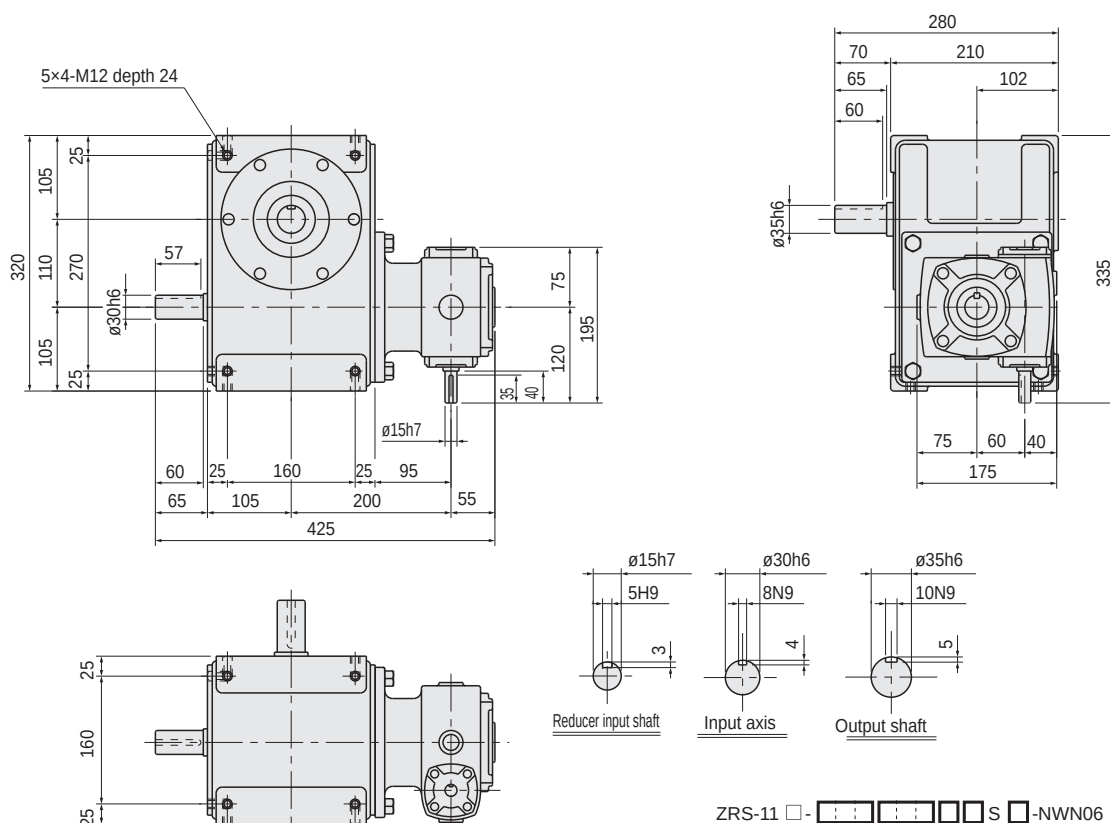


* The positional relationship between the key groove and the 3-M4 screw is arbitrary.

ZRS-11 □ - □ □ □ □ □ □ □ □ S □ -NWN06 □ YG

The fastening key of the reduction gear and the input shaft shall be of old JIS1 type (JIS B1301-1959).

● With worm reducer (without HO60-C/B)

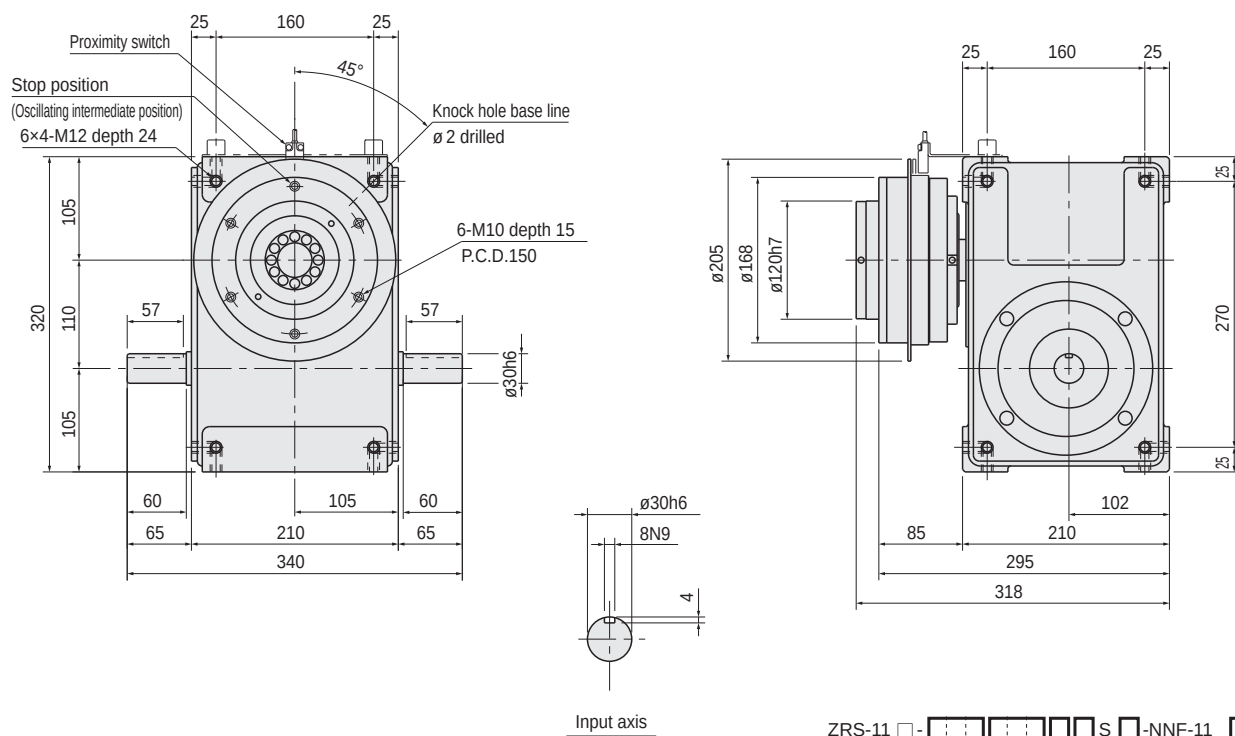


ZRS-11 □ - □ □ □ □ □ □ □ □ S □ -NWN06 □ NG

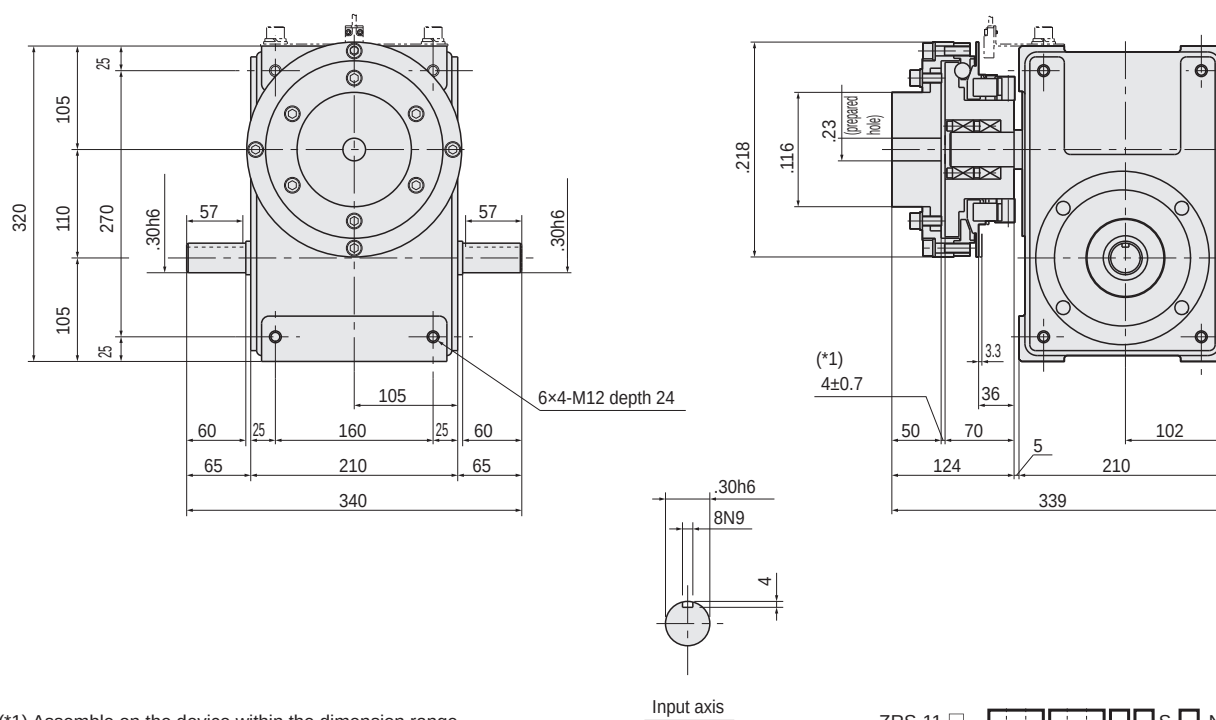
The fastening key of the reduction gear and the input shaft shall be of old JIS1 type (JIS B1301-1959).

Optional dimensions

● With torque saver (TSF11)

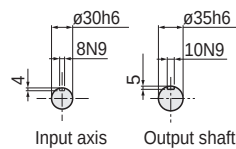
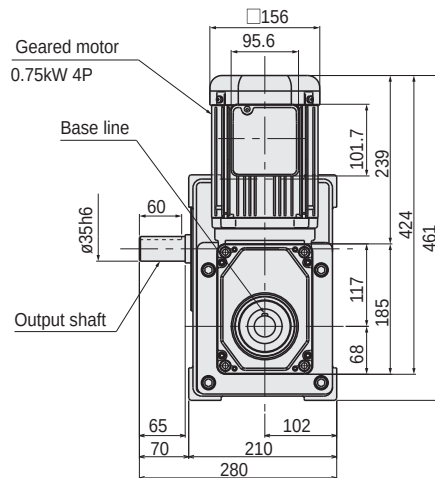
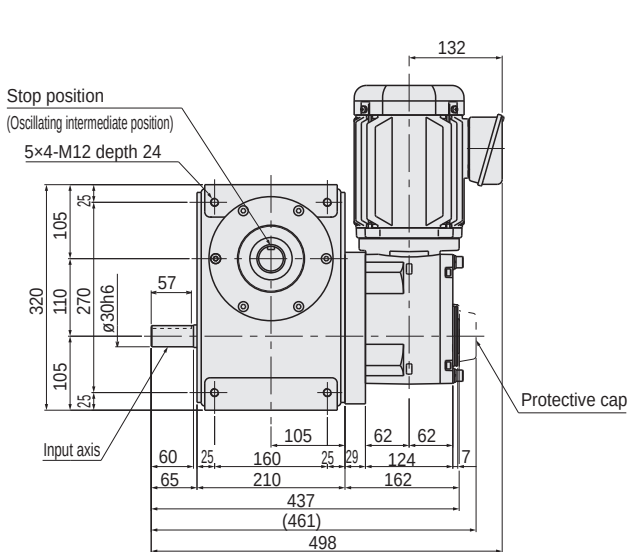


● With torque guard (TGX70)



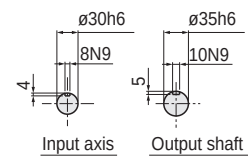
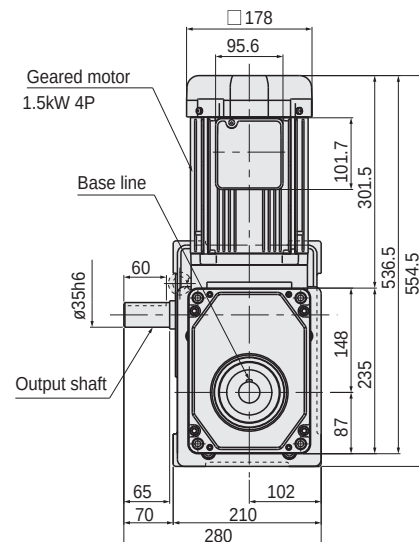
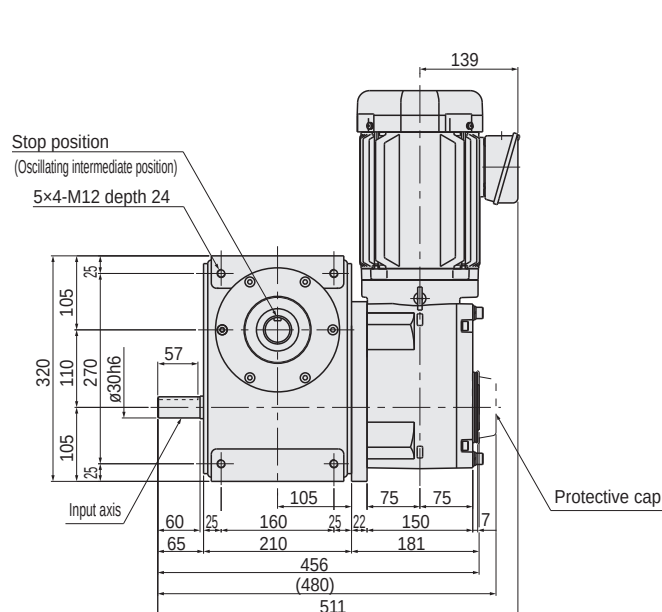
(*) Assemble on the device within the dimension range.

● With hollow shaft geared motor (0.75 kW)



ZRS-11 □ - □ □ □ □ □ S □ -NHNGKS □ F

● With hollow shaft geared motor (1.5 kW)



ZRS-11 □ - □ □ □ □ □ S □ -NHNGLS □ F

MEMO

ZRS
Technical data
Option
Safety precautions
Model selection specifications Check sheet



Mechanical indexer Roller gear cam unit

ZRS-14

Distance between axes: 140mm

ZRS

Technical data

Option

Safety precautions

Model selection specifications
Check sheet

How to order

ZRS - **14** **X** - **004** **270** **S** **1** **S** **1** - Option
 ①Size ②Operation ③Indexing No. Oscillation angle ④Total allocated angle ⑤Cam curve ⑥Cam torsion Oscillation pattern ⑦Output shaft shape ⑧Installation orientation
 *Refer to page 87.

①Size	
14	Distance between axes 140mm

②Operation	
X	Index
Y	Oscillations

Indexing No. (for indexing)			
002	2	012	12
003	3	015	15
004	4	016	16
005	5	018	18
006	6	020	20
008	8	024	24
009	9	030	30
010	10	032	32
③Oscillation angle (for oscillations)			
030	30°	090	90°
045	45°	120	120°
060	60°		

④Total indexing angle (for index)			
090	90°	240	240°
120	120°	270	270°
150	150°	300	300°
180	180°	330	330°
210	210°		

④Total allocated angle (for oscillations)			
180	180°(90°x 2)	300	300°(150°x 2)
240	240°(120°x 2)	360	360°(180°x 2)

⑤Cam curve	
S	MS curve

⑥Cam torsion (for index)	
	Refer to page 2
⑥Oscillating pattern (for oscillations)	
	Refer to page 2

⑦Output shaft shape	
S	Straight
F	Flange

⑧Installation orientation	
	Refer to page 3.

Specifications

Indexing accuracy (Index)	Seconds	1 stationary	±30
		2 stationary	±60
Indexing accuracy (oscillating)	Seconds		±60
Repeatability	Seconds		15
Allowable thrust force	N	Output shaft	7300
		Input axis	4500
Allowable radial force	N	Output shaft	9500
		Input axis	4200
Allowable bending moment	N·m	Output shaft	450 (600)
Moment of inertia	kg·m ²	Output shaft	2.53 x 10 ⁻² (3.93 x 10 ⁻²)
		Input axis	5.42 x 10 ⁻²
Internal friction torque	N·m		24
Body weight	kg		115
Oil amount	ℓ		6

* Values in () are for ⑦ output shaft shape F: flange.

* Contact CKD for stopping accuracy.

Allocation angle list

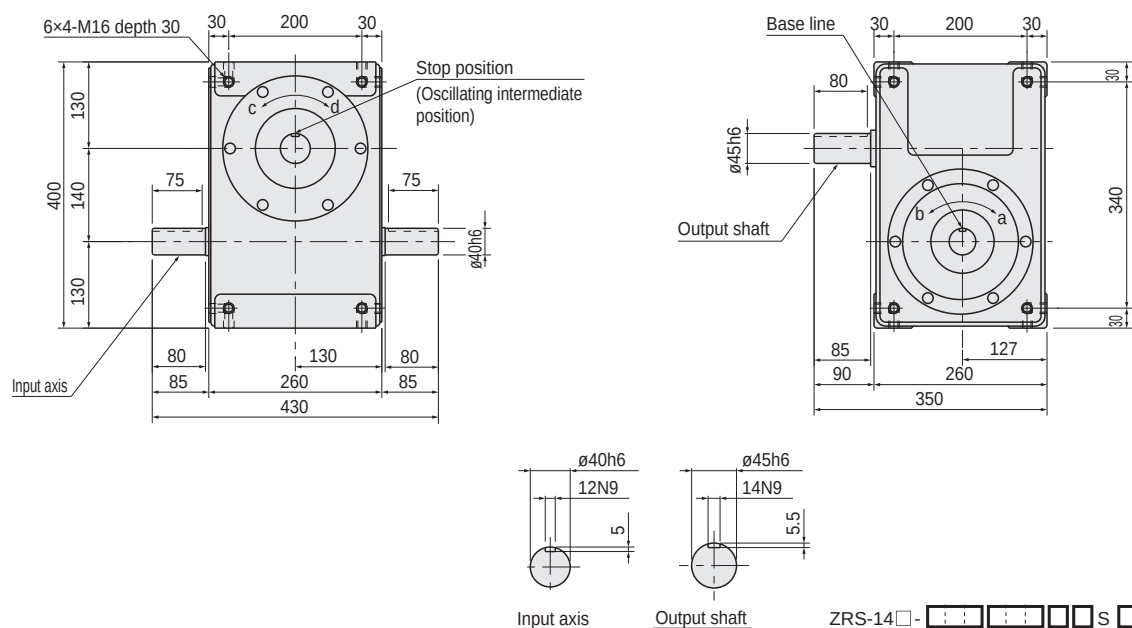
Index operation

Total allocated angle (θt)											
Indexing No. (n)		90°	120°	150°	180°	210°	240°	270°	300°	330°	
1 stationary	2										
	3										
	4										
	5										
	6										
	8										
	9										
	10										
	12										
	15										
	16										
	16										
2 stationary	18										
	20										
	24										
	30										
	32										
	32										

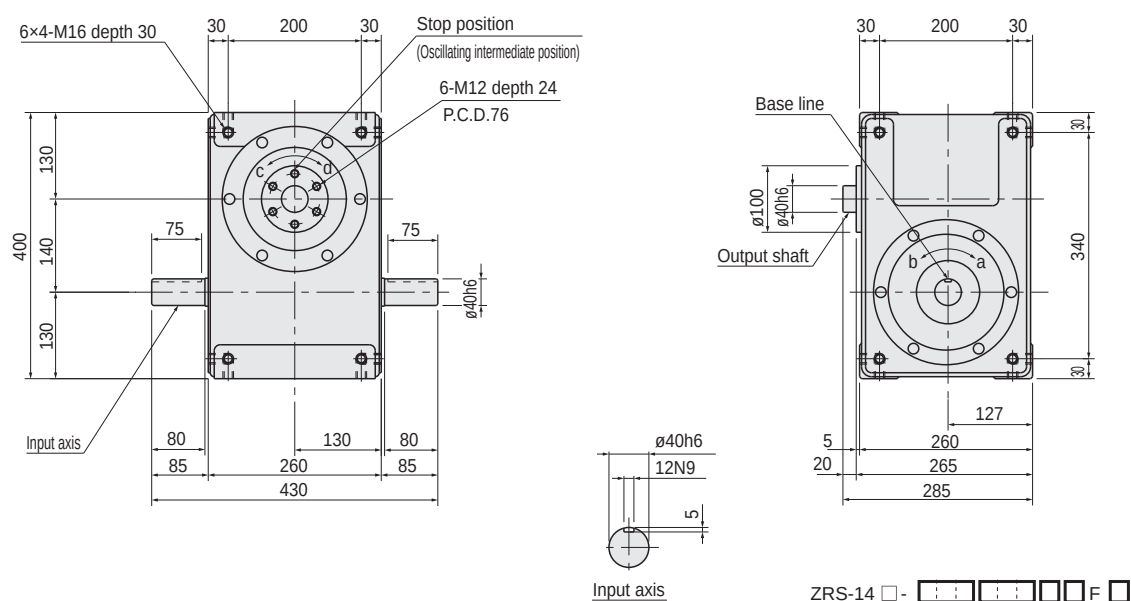
Oscillating operation

Total allocated angle (θt)					
Oscillation angle (ψ)		180°	240°	300°	360°
120°					
90°					
60°					
45°					
30°					

Dimensions (straight axis)



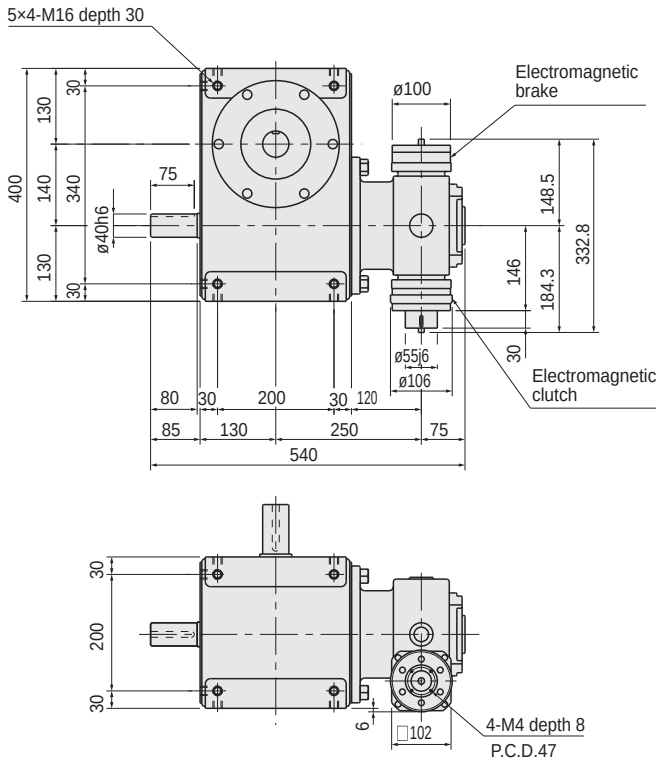
Dimensions (flange shaft)



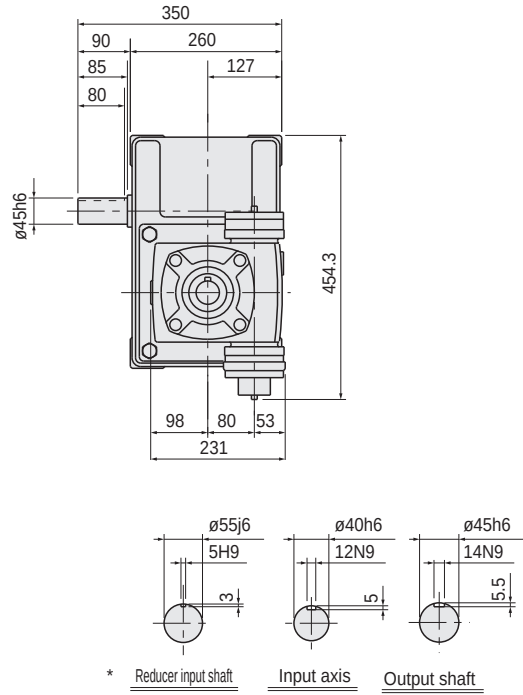
Mounting orientation and lubrication port/Oil level indicator position

Installation orientation	1	2	3
Dimensions			
			• Oil filler(Rc3/4) ○ Oil level indicator (ø30)
Installation orientation	4	5	6
Dimensions			
	Dimensions in () are for ZRS-14Y.		ZRS-14X ZRS-14Y

● With worm reducer (HO80-C/B)



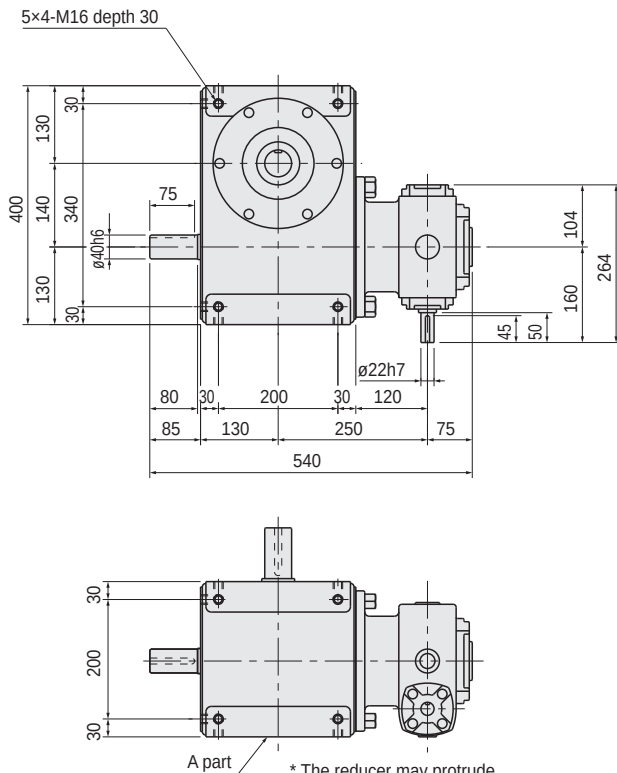
* The positional relationship between the key groove and the 4-M4 screw is arbitrary.



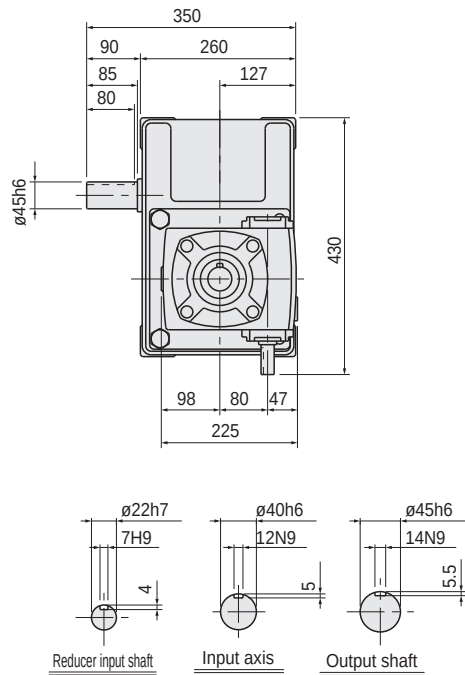
ZRS-14 - S -NWN08 YG

The fastening key of the reduction gear and the input shaft shall be of old JIS1 type (JIS B1301-1959).

● With worm reducer (without HO80-C/B)



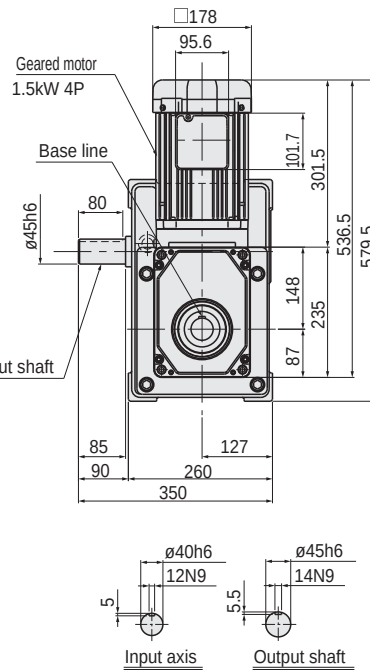
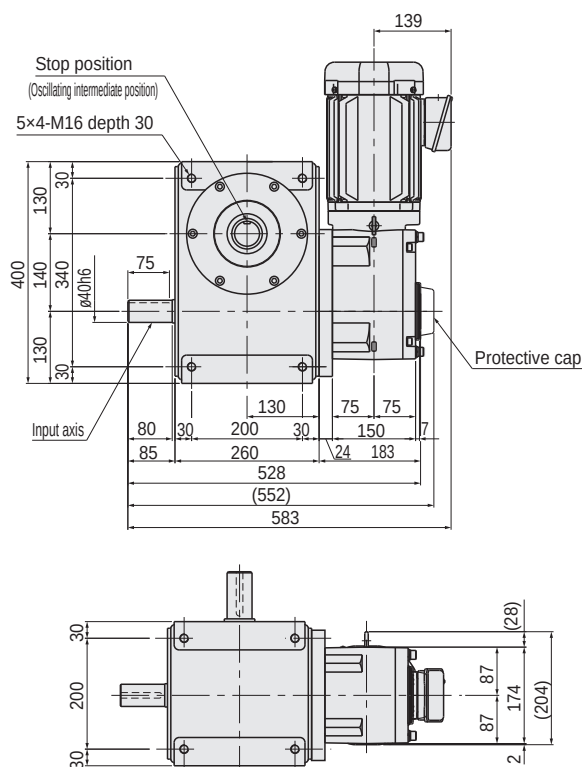
* The reducer may protrude from the housing end (A part).



ZRS-14 - S -NWN08 NG

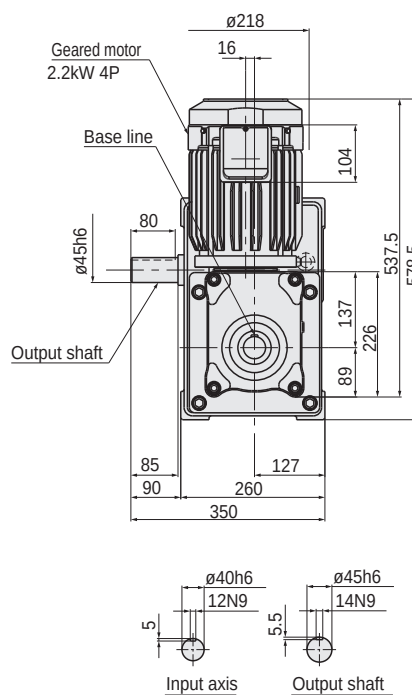
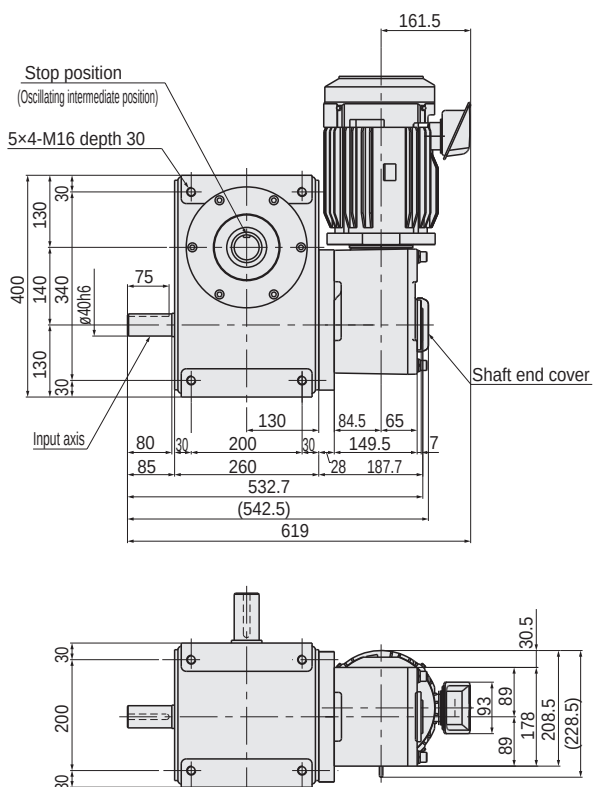
The fastening key of the reduction gear and the input shaft shall be of old JIS1 type (JIS B1301-1959).

● With hollow shaft geared motor (1.5 kW)



ZRS-14 □ - □ □ □ □ □ S □ -NHNGLS □ F

● With hollow shaft geared motor (2.2 kW)



ZRS-14 □ - □ □ □ □ □ S □ -NHNTMS □ F