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Nabtesco

CERTIFIED MANAGEMENT SYSTEM JQA QUALITY SYSTEM
ISO 9001
JQA-1190

VIGO DRIVE™

RD2 SERIES

High Accuracy / High Rigidity

Reduction Gearhead Model

The World's Top Class
High-Precision Reduction Gears

Over **4 million units** in total production! (as of January 2012)

The next stage of evolution in the RD series
Introducing the full line-up of the new RD2 series!

RD□-E
RD In-Line Type

RDS-E	RDR-E	RDP-E
Straight Input	Right Angle Input	Pulley Input

RD□-C
RD Hollow Type

RDS-C	RDR-C	RDP-C
Straight Input	Right Angle Input	Pulley Input

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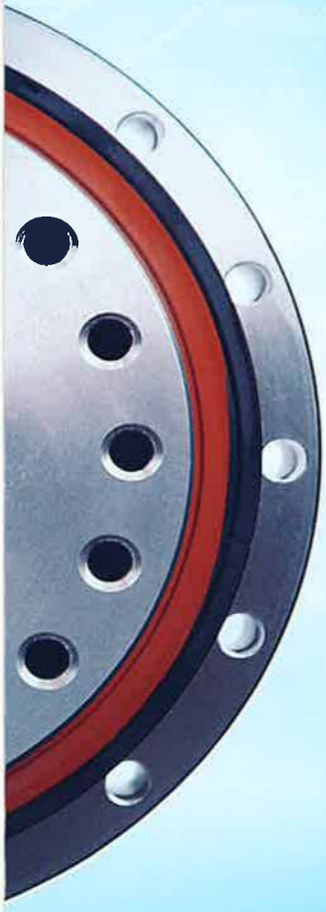
RD2 SERIES

To maximize the performance of servomotors, Nabtesco's precision gearheads have *further evolved!*



Highly Reliable
Capable of 5 times the rated torque

High Rigidity
Exceptional torsional rigidity allows for lower vibration.

High Precision
Minimal backlash for remarkable positioner accuracy

Heavy Load Support
Internal bearing supports heavy loads.

Easy Installation
Includes purpose-built lubricant grease.
Comes with servomotor connector component.

Customizable Variations
Supports right angle input and pulley input, as well as straight input.
6 types are in this line-up, allowing greater freedom in design customizations.

Compact Design
Overall length shortened by up to 10%.
(Compared to the straight input for our original RD series)

Changes from Our Original Series

RDS-E

	RD-E (original)	RDS-E
Lubricant	Molywhite	VIGO Grease
Connector	Coupling	Bush Coupling

RDS-C

	RD-C (original)	RDS-C
Lubricant	Molywhite	VIGO Grease
Connector	Coupling	Bush Coupling
Spigot-joint of the output shaft	Yes	None
Center Tube	Fixed	Extends to rotating /input side

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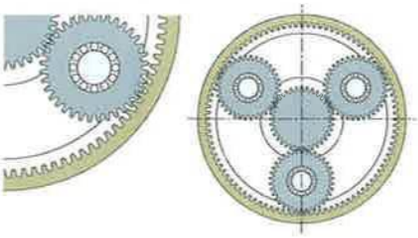
Benefits of Using Nabtesco Reduction Gear

Benefit 1 Reduce the risk of breakdowns out in the field.

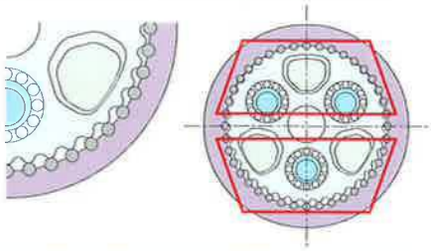
■Standard Epicyclic Gear



Excessive torque leads to high risk of reduction gear breakdown

Because the contact surface is small, there is a high risk of breakage (cracked gear teeth) when there is excessive torque.

■Reduction Gear by Nabtesco

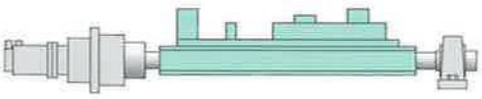


Pin gear mechanism makes it tougher to break.

The large contact surface (about 90% of the surface) allows the force to disperse when there is excessive torque, thus lowering the risk of breakdown.

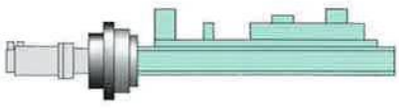
Benefit 2 Reduce costs (number of parts) and save space.

■Reduction Gear by Other Companies



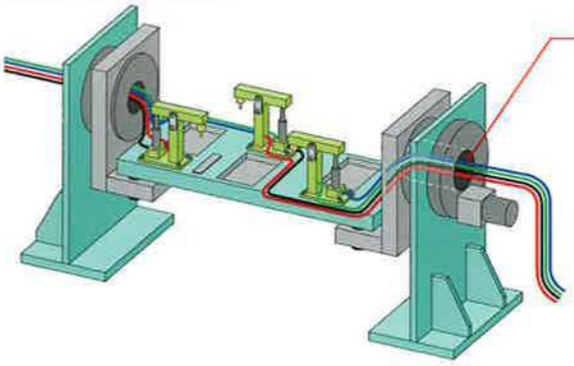
Since the main bearing capacity is small, it requires a support table or another large diameter bearing.

■Reduction Gear by Nabtesco



A one sided setup is made possible with the built-in large diameter main bearing.

Benefit 3 Layout improvements become possible.



Allows routing of cables.

The RD-C series is the only hollow gearhead type that offers high precision and high rigidity, thus enabling more freedom in design.

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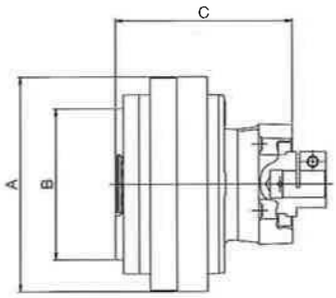
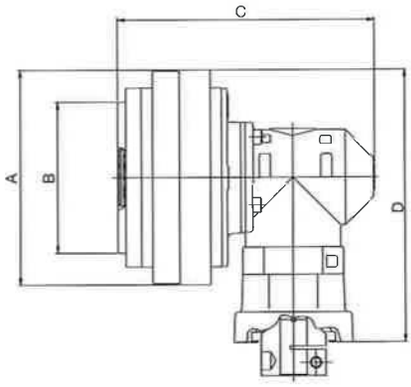
Outer Dimensions

RD□-E

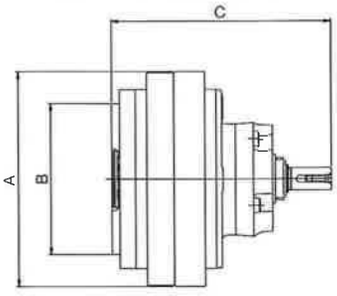
RDS-E / Straight Input



RDR-E / Right Angle Input



RDP-E / Pulley Input

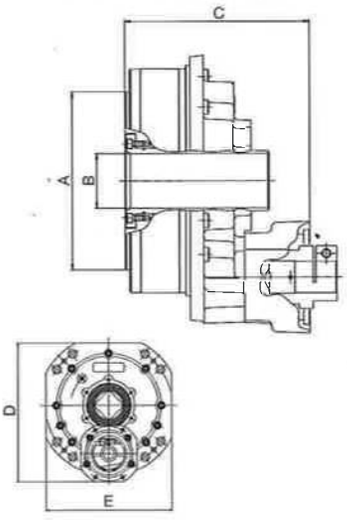


Model Code	A	B h7	C			D
			RDS-E	RDR-E	RDP-E	
006E	ø125.5	ø86	118.9/129.9	178.4	-	182.55
020E	ø150	ø105	124.6/135.6	184.1	152.1	194.8
040E	ø192	ø135	158.6/182.6	229.1	194.6	243.5
080E	ø222	ø160	173/197	243.5	209	258.5
160E	ø280	ø204	216.5/213.5	352.5	257	353.5
320E	ø325	ø245	241/238	377	281.5	376

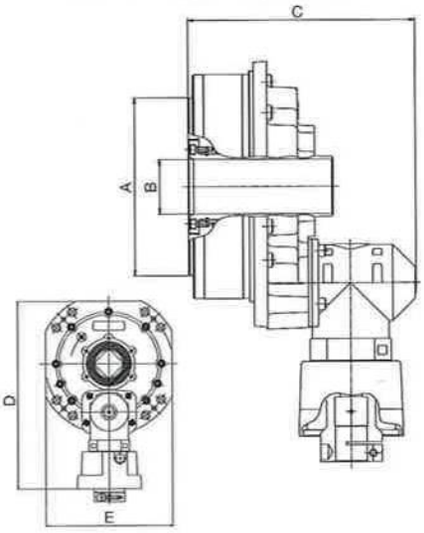
Note: 1. The above diagram and dimensions do not include the motor flange.
2. There are 2 types for the straight input C dimensions, depending on the input unit.

RD□-C

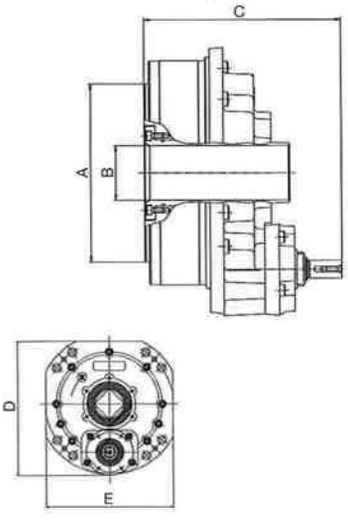
RDS-C / Straight Input



RDR-C / Right Angle Input



RDP-C / Pulley Input



Model Code	A h7	B	C			D			E		
			RDS-C	RDR-C	RDP-C	RDS-C	RDR-C	RDP-C	RDS-C	RDR-C	RDP-C
010C	ø110	ø26	132/143	191.5	159.5	185/196.5	253.3/265.3	186	170	170	170
027C	ø140	ø37	141/152	200.5	168.5	227.2/237.7	294.5/306.5	227.2	207.5	207.5	207.5
050C	ø176	ø48	158.6/182.6	229.1	194.6	270/278.5	363.5/387.5	268	252	252	252
100C	ø199	ø61	173/197	243.5	209	302/310.5	395.5/419.5	300	280	280	280
200C	ø260	ø76	246/243	382	286.5	403/413	550.5/541.5	402.7	368	368	368
320C	ø340	ø121	256.5/253.5	392.5	297	478.5/488.5	626/617	478.4	447	447	447

Note: 1. The above diagram and dimensions do not include the motor flange.
2. There are 2 types for the straight input C dimensions, depending on the input unit.
3. There are 2 types for the orthogonal input D dimensions, depending on the input unit.

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Rating Table

Straight Input / Right Angle Input

Model Code	Ratio Code (Speed Ratio)	Supported Motor (reference) kw	Rated Torque N-m	Capacity of Main Bearing: Allowable Moment N-m	Capacity of Main Bearing: Maximum Thrust Load N
E SERIES					
RDS-006E RDR-006E	031 (31) 043 (43) 054 (53.5) 079 (79) 103 (103)	0.5	58	196	1470
RDS-020E RDR-020E	041 (41) 057 (57) 081 (81) 105 (105) 121 (121) 161 (161)	0.5-1.5	167	882	3920
RDS-040E RDR-040E	041 (41) 057 (57) 081 (81) 105 (105) 121 (121) 153 (153)	0.5-3.5	412	1666	5194
RDS-080E RDR-080E	041 (41) 057 (57) 081 (81) 101 (101) 121 (121) 153 (153)	1.0-7.0	784	2156	7840
RDS-160E RDR-160E	066 (66) 081 (81) 101 (101) 121 (121) 145 (145) 171 (171)	2.0-7.0	1568	3920	14700
RDS-320E RDR-320E	066 (66) 081 (81) 101 (101) 121 (121) 141 (141) 185 (185)	3.5-	3136	7056	19600

Model Code	Ratio Code (Speed Ratio)	Supported Motor (reference) kw	Rated Torque N-m	Capacity of Main Bearing: Allowable Moment N-m	Capacity of Main Bearing: Maximum Thrust Load N
C SERIES					
RDS-010C RDR-010C	081 (81) 108 (108) 153 (153) 189 (189) 243 (243)	0.5	98	686	5880
RDS-027C RDR-027C	100 (99.82) 142 (141.68) 184 (184) 233 (233.45)	0.5-1.0	265	980	8820
RDS-050C RDR-050C	109 (109) 153 (152.6) 196 (196.2) 240 (239.8)	0.5-1.5	490	1764	11760
RDS-100C RDR-100C	101 (100.5) 150 (150) 210 (210) 258 (258)	1.0-3.5	980	2450	13720
RDS-200C RDR-200C	106 (105.83) 156 (155.96) 206 (206.09) 245 (245.08)	2.0-7.0	1960	8820	19600
RDS-320C RDR-320C	115 (115) 157 (157) 207 (207) 253 (253)	3.5-	3136	20580	29400

Pulley Input

Model Code	Ratio Code (Speed Ratio)		Rated Torque N-m	Capacity of Main Bearing: Allowable Moment N-m	Capacity of Main Bearing: Maximum Thrust Load N
E SERIES					
-	-		-	-	-
RDP-020E	081 (81)		167	882	3920
RDP-040E	057 (57)		412	1666	5194
RDP-080E	081 (81)		784	2156	7840
RDP-160E	066 (66)		1568	3920	14700
RDP-320E	081 (81)		3136	7056	19600

Model Code	Ratio Code (Speed Ratio)		Rated Torque N-m	Capacity of Main Bearing: Allowable Moment N-m	Capacity of Main Bearing: Maximum Thrust Load N
C SERIES					
RDP-010C	108 (108)		98	686	5880
RDP-027C	100 (99.82)		265	980	8820
RDP-050C	109 (109)		490	1764	11760
RDP-100C	101 (100.5)		980	2450	13720
RDP-200C	106 (105.83)		1960	8820	19600
RDP-320C	157 (157)		3136	20580	29400

Note: 1. The rating table shows the specification values of each reduction gear.
2. The rated speed is 30rpm for model code 006E, and 15rpm for all other model codes.
3. The life rating is 6000 hours for all model codes.

Main Applications

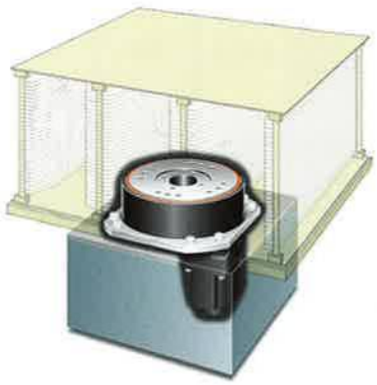
Examples of Uses for the RD and RD2 Series (for reference)

The following are examples of typical applications for the products listed in this catalog. There are many other applications in which they can be built.

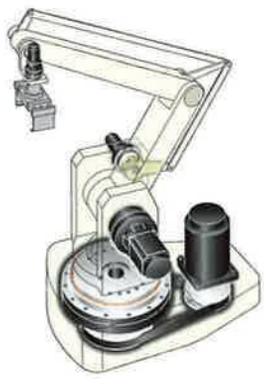
■ Positioner (Tilting Axis)

■ Positioner (Rotary Axis)

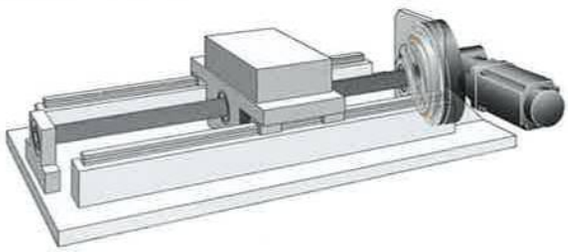
■ Glass Substrate/Wafer Rotation and Positioning



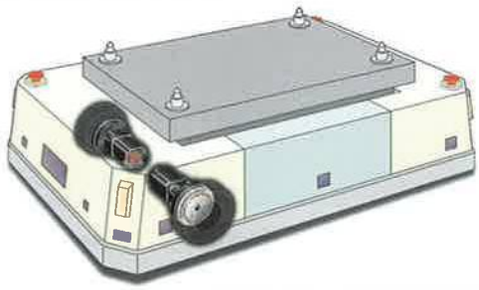
■ Joint Axis Rotation for Palletizing Robots



■ Ball Screw Drive



■ AGV/Rotary Drive Shaft



Specifications are subject to change without notice.

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