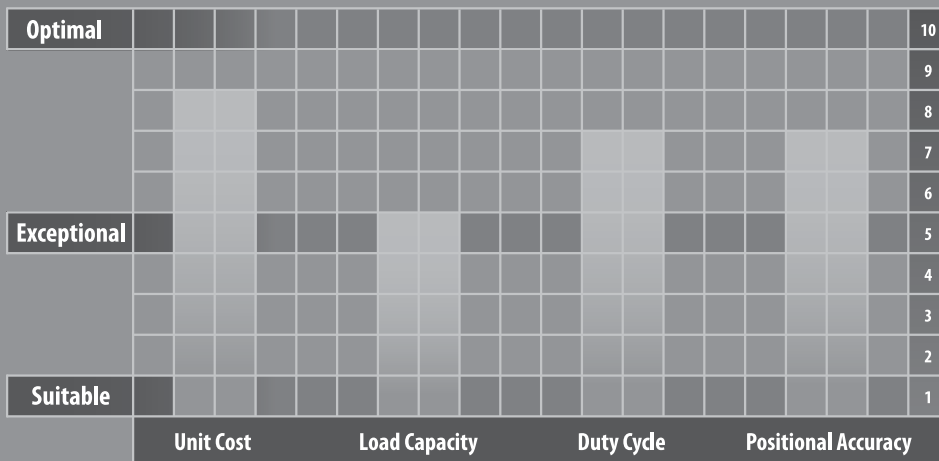


VRB-SERIES

A valuable alternative for OEMs that need a high-performance gearbox, and prefers a flexible mounting design to make it easier to assemble the gearhead onto their machinery. The positional accuracy and torque handling capabilities are an ideal fit for packaging machinery, medical equipment, and custom assembly cell automation.

The VRB Series planetary gearbox and its standard mounting flange are a dimensional replacement for a few common competitive models. The maximum output torque for the series peaks at 2,300 Nm. The VRB provides a backlash rating of <3 arc-minutes as its standard, which means this series provides solid performance at an exceptional value.



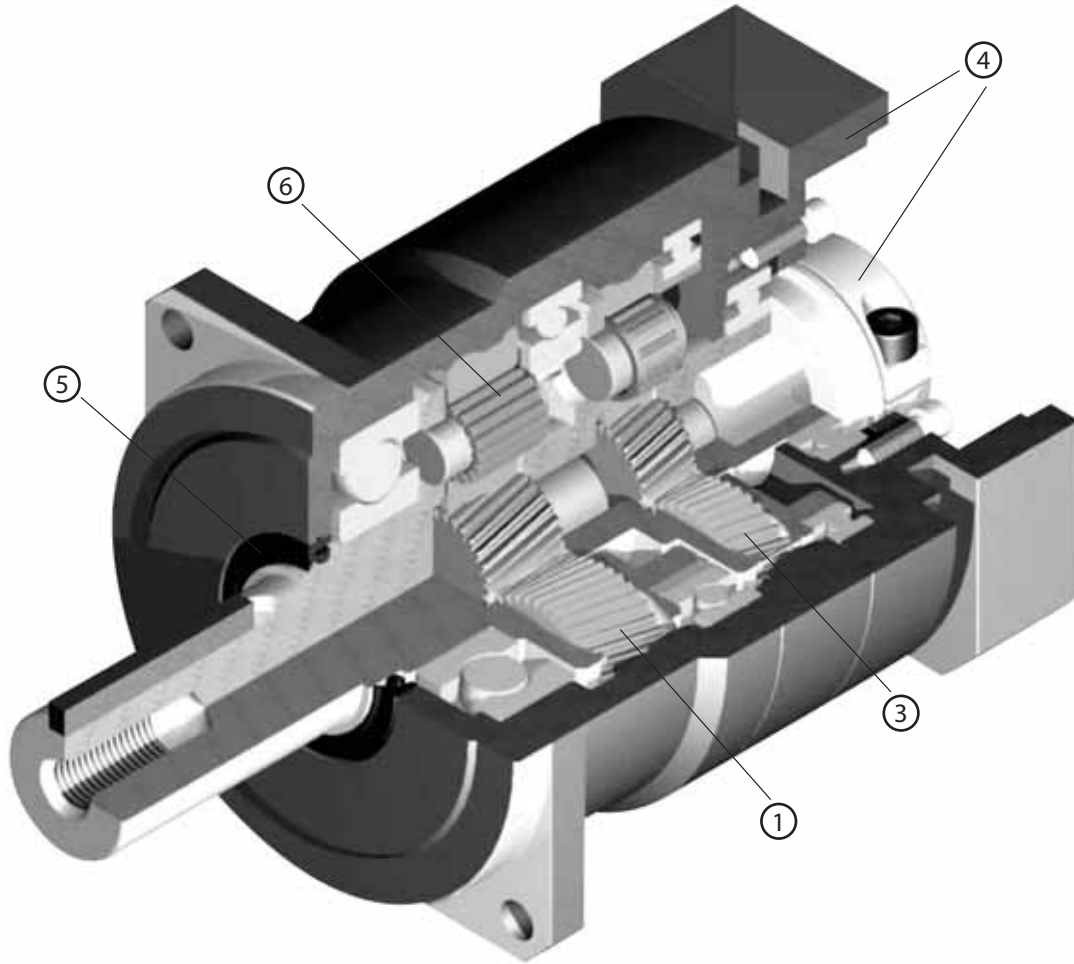


VRB-SERIES

- Industry standard mounting dimensions
- Large variety of frame sizes and ratios
- Thru-bolt mounting style
- Best-in-class backlash (≤ 3 arc-min)
- Ships in 48 hours in standard frame sizes
- Assembled in the USA

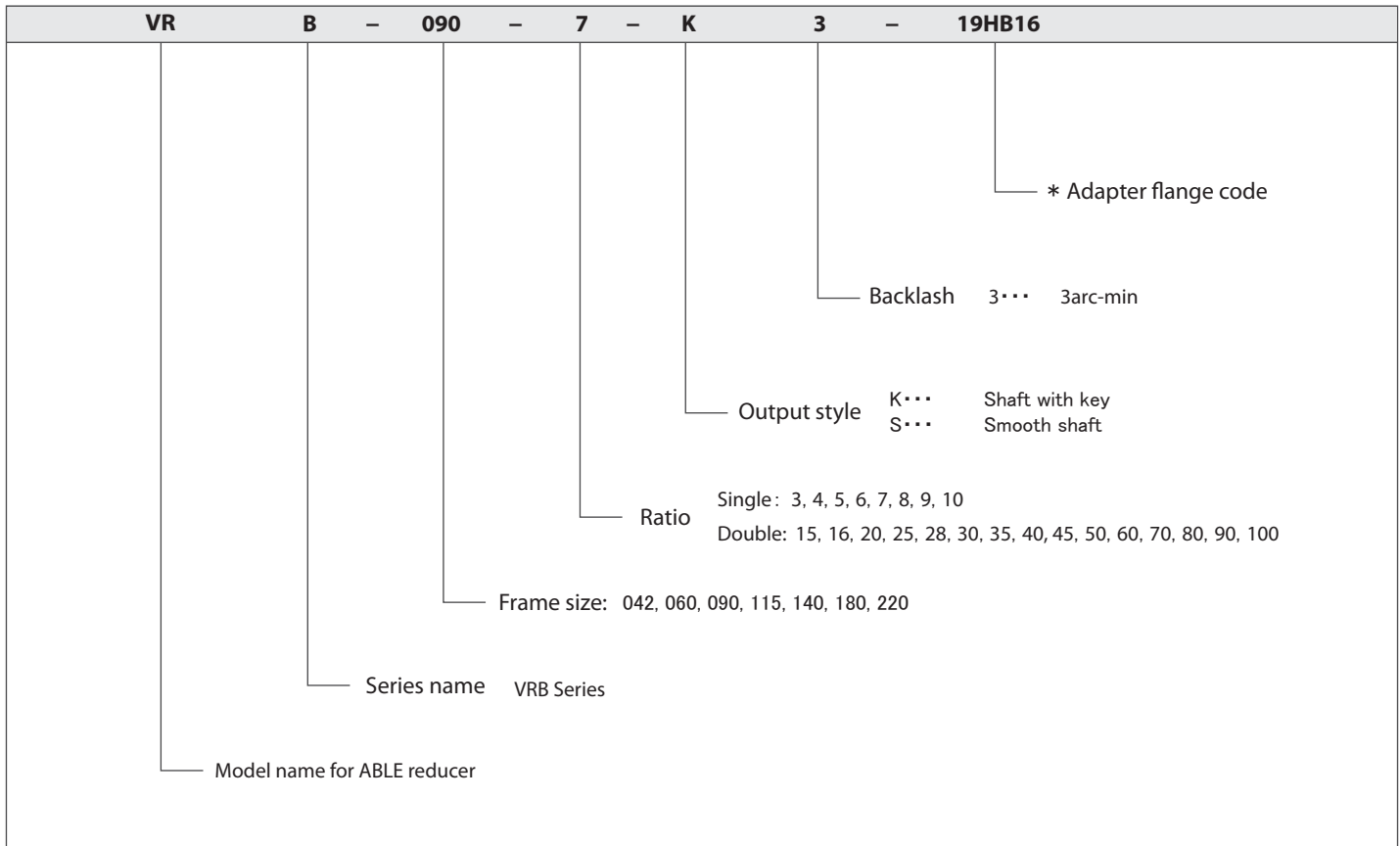
VRB-SERIES Inline shaft

VRB-Series – Features



- ① Quiet operation: Helical cut gears contribute to reduced vibration and noise
- ② High precision: Standard backlash is 3 arc-min, ideal for higher levels of positional accuracy
- ③ High rigidity & torque: Rigidity and torque capacity are achieved by using uncaged needle roller bearings
- ④ Adapter-bushing connection: Enables a simple, effective attachment to most servo motors
- ⑤ No leakage through the seal: High viscosity, anti-separation grease does not liquefy and does not migrate away from the gears
- ⑥ Maintenance-free: No need to replace the grease for the life of the unit. The reducer can be positioned in any orientation

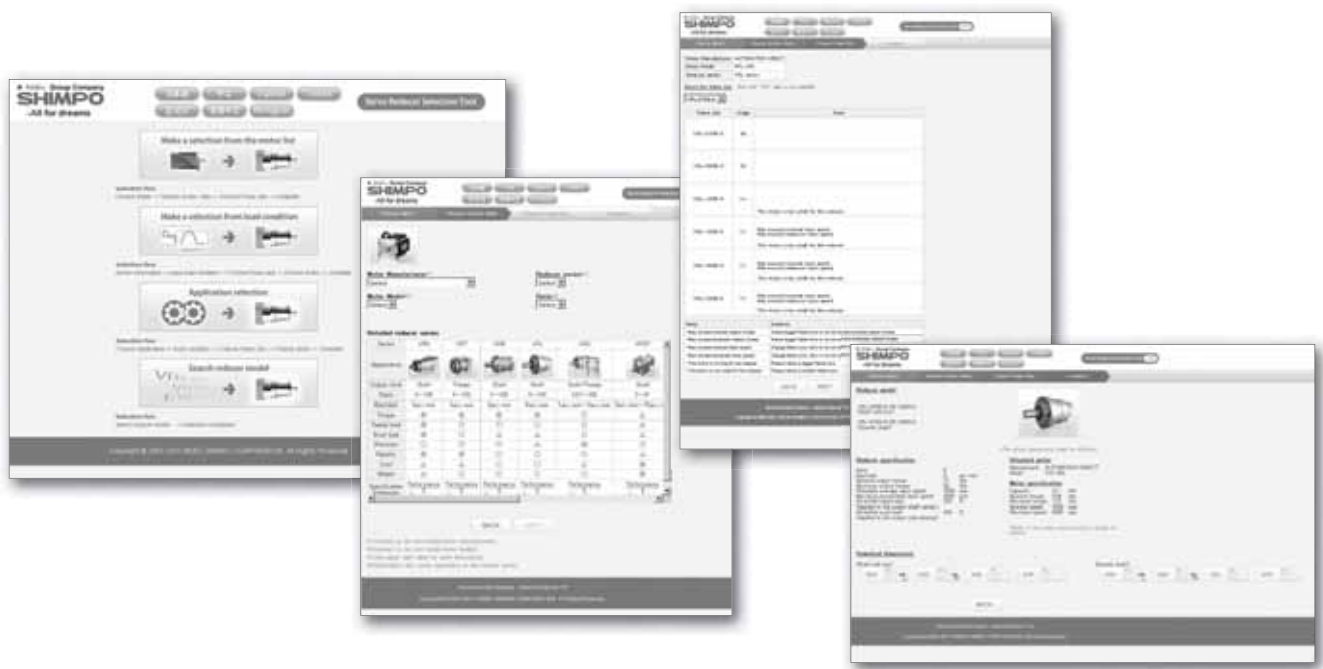
VRB-Series – Model Code



VRB

- *1) Adapter flange code
Adapter flange code varies depending on the motor
- *2) For all washdown intensive and food grade options, refer to pages 36 and 37

Contact us for additional information or refer to our online reducer selection tool.
 Selection tool www.nidec-shimpo.co.jp/selection/eng



VRB-SERIES Inline shaft

VRB-042 – 1-Stage Specifications

Frame Size	042									
Stage	1-Stage									
Ratio	Units	Notes	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	6	9	9	9	9	9	6	6
Maximum Acceleration Torque	[Nm]	*2	12	18	18	18	18	18	12	12
Emergency Stop Torque	[Nm]	*3	30	35	35	35	35	35	30	30
Nominal Input Speed	[rpm]	*4	4000							
Maximum Input Speed	[rpm]	*5	8000							
No Load Running Torque	[Nm]	*6	0.03							
Permitted Radial Load	[N]	*7	240	270	290	310	320	340	350	360
Permitted Axial Load	[N]	*8	270	300	330	360	380	410	430	450
Maximum Radial Load	[N]	*9	710							
Maximum Axial Load	[N]	*10	640							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.053	0.041	0.036	0.034	0.032	0.031	0.031	0.030
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.091	0.079	0.074	0.072	0.071	0.070	0.069	0.069
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc-min]	*12	2							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	0.6							

VRB-042 – 2-Stage Specifications

Frame Size	042									
Stage	2-Stage									
Ratio	Units	Notes	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	6	9	9	9	9	6	9	9
Maximum Acceleration Torque	[Nm]	*2	12	18	18	18	18	12	18	18
Emergency Stop Torque	[Nm]	*3	30	35	35	35	35	30	35	35
Nominal Input Speed	[rpm]	*4	4000							
Maximum Input Speed	[rpm]	*5	8000							
No Load Running Torque	[Nm]	*6	0.01							
Permitted Radial Load	[N]	*7	410	420	460	490	510	520	550	570
Permitted Axial Load	[N]	*8	540	550	610	640	640	640	640	640
Maximum Radial Load	[N]	*9	710							
Maximum Axial Load	[N]	*10	640							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.035	0.038	0.034	0.034	0.038	0.030	0.034	0.030
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	2							
Maximum Torsional Backlash	[arc-min]	--	≤ 5							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	0.7							

VRB-042 – 2-Stage Specifications

Frame Size	042										
Stage	2-Stage										
Ratio	Units	Notes	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	6	9	9	9	9	6	6		
Maximum Acceleration Torque	[Nm]	*2	12	18	18	18	18	12	12		
Emergency Stop Torque	[Nm]	*3	30	35	35	35	35	30	30		
Nominal Input Speed	[rpm]	*4	4000								
Maximum Input Speed	[rpm]	*5	8000								
No Load Running Torque	[Nm]	*6	0.01								
Permitted Radial Load	[N]	*7	600	620	660	690	710	710	710		
Permitted Axial Load	[N]	*8	640	640	640	640	640	640	640		
Maximum Radial Load	[N]	*9	710								
Maximum Axial Load	[N]	*10	640								
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.034	0.030	0.030	0.030	0.030	0.030	0.030		
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	2								
Maximum Torsional Backlash	[arc-min]	--	≤ 5								
Noise Level	[dB]	*13	61								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	0.7								

*1) At nominal input speed, service life is 20,000 hours

*2) The maximum torque when starting or stopping operation

*3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)

*4) The average input speed

*5) The maximum intermittent input speed

*6) This is the torque at no load applied on the input shaft. The input speed is 4,000 rpm for VRB 042

*7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)

*8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)

*9) The maximum radial load that the reducer can accept

*10) The maximum axial load that the reducer can accept

*11) The efficiency at the nominal torque rating

*12) This does not include the lost motion

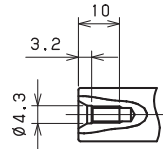
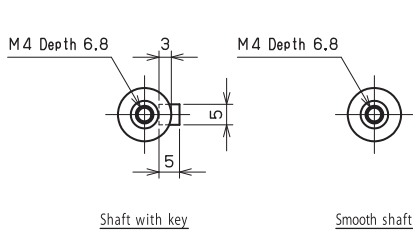
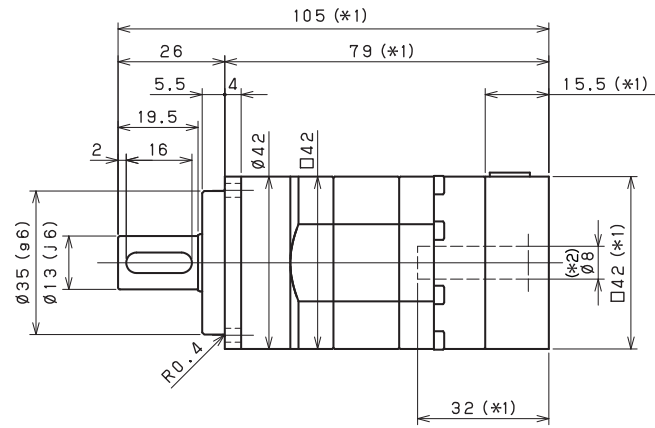
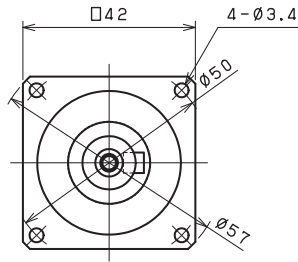
*13) Contact NIDEC-SHIMPO for the testing conditions and environment

*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

*15) The weight may vary slightly between models

VRB-042 - 2-Stage Dimensions

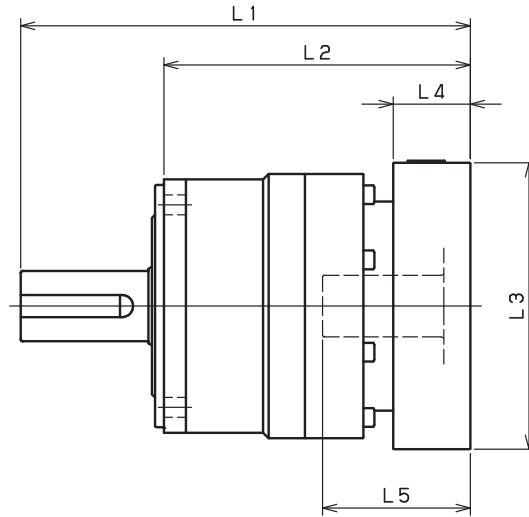
Input shaft bore $\cong \phi 8$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRB-042 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-042-□-□-S8** (Input shaft bore ≤ φ8)	ZA·ZC·ZD·ZF·ZG·ZL·ZM·ZN·ZQ	88.5	73	64	□42	15.5	32
	ZB·ZE·ZH·ZJ·ZK	93.5	73	69	□42	20.5	37
	BA·BB·BD·BE·BG·BH·BJ	88.5	73	64	□60	15.5	32
	BC·BF	93.5	73	69	□60	20.5	37
VRB-042-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BJ·BK·BP	91.5	75	67	□65	16.5	35
	BC·BH·BM·BN	96.5	75	72	□65	21.5	40
	BL	101.5	75	77	□65	26.5	45

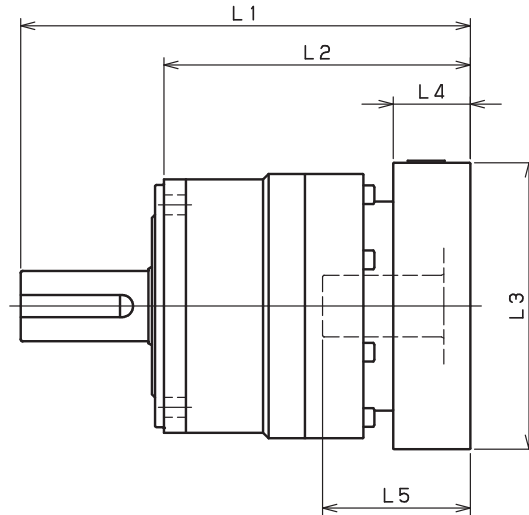
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact NIDEC-SHIMPO.

VRB-042 – 2-Stage Adapter Dimensions



VRB

Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-042-□-□-S8** (Input shaft bore ≤ φ8)	ZA·ZC·ZD·ZF·ZG·ZL·ZM·ZN·ZQ	105	89.5	80.5	□42	15.5	32
	ZB·ZE·ZH·ZJ·ZK	110	89.5	85.5	□42	20.5	37
	BA·BB·BD·BE·BG·BH·BJ	105	89.5	80.5	□60	15.5	32
	BC·BF	110	89.5	85.5	□60	20.5	37
VRB-042-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BJ·BK·BP	--	--	--	--	--	--
	BC·BH·BM·BN	--	--	--	--	--	--
	BL	--	--	--	--	--	--

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact NIDEC-SHIMPO.

VRB-o6o – 1-Stage Specifications

Frame Size	060									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	27	18	18
Maximum Acceleration Torque	[Nm]	*2	35	50	50	50	50	50	35	35
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	100	80	80
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.15							
Permitted Radial Load	[N]	*7	430	470	510	540	570	600	620	640
Permitted Axial Load	[N]	*8	310	360	390	430	460	480	510	530
Maximum Radial Load	[N]	*9	1200							
Maximum Axial Load	[N]	*10	1100							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.140	0.095	0.077	0.068	0.062	0.059	0.057	0.056
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.220	0.170	0.160	0.150	0.140	0.140	0.140	0.140
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.430	0.380	0.360	0.360	0.350	0.350	0.340	0.340
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc-min]	*12	3							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	66							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	1.4							

VRB-o6o – 2-Stage Specifications

Frame Size	060									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	18	27	27
Maximum Acceleration Torque	[Nm]	*2	35	50	50	50	50	35	50	50
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	80	100	100
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.04							
Permitted Radial Load	[N]	*7	740	750	810	870	910	930	980	1000
Permitted Axial Load	[N]	*8	630	650	720	790	830	860	920	970
Maximum Radial Load	[N]	*9	1200							
Maximum Axial Load	[N]	*10	1100							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.055	0.057	0.054	0.053	0.055	0.049	0.053	0.049
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.140	0.140	0.130	0.130	0.140	0.130	0.130	0.130
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	3							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	66							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	1.6							

VRB-o6o – 2-Stage Specifications

Frame Size	060										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	18	18		
Maximum Acceleration Torque	[Nm]	*2	35	50	50	50	50	35	35		
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	80	80		
Nominal Input Speed	[rpm]	*4	3000								
Maximum Input Speed	[rpm]	*5	6000								
No Load Running Torque	[Nm]	*6	0.04								
Permitted Radial Load	[N]	*7	1100	1100	1200	1200	1200	1200	1200		
Permitted Axial Load	[N]	*8	1000	1100	1100	1100	1100	1100	1100		
Maximum Radial Load	[N]	*9	1200								
Maximum Axial Load	[N]	*10	1100								
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.053	0.049	0.049	0.049	0.049	0.049	0.049		
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.130	0.130	0.130	0.130	0.130	0.130	0.130		
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	3								
Maximum Torsional Backlash	[arc-min]	--	≤ 3								
Noise Level	[dB]	*13	66								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	1.6								

*1) At nominal input speed, service life is 20,000 hours

*2) The maximum torque when starting or stopping operation

*3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)

*4) The average input speed

*5) The maximum intermittent input speed

*6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRB o6o

*7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)

*8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)

*9) The maximum radial load that the reducer can accept

*10) The maximum axial load that the reducer can accept

*11) The efficiency at the nominal torque rating

*12) This does not include the lost motion

*13) Contact NIDEC-SHIMPO for the testing conditions and environment

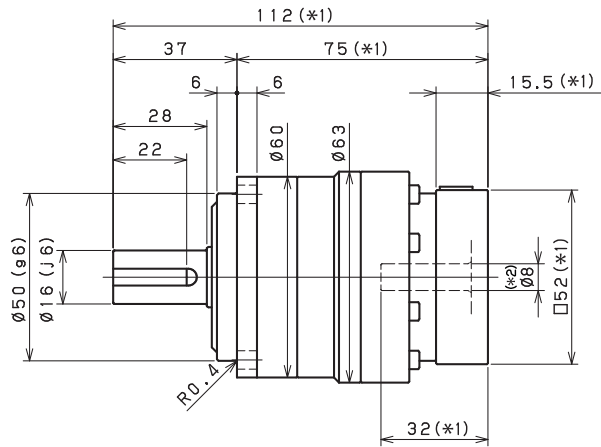
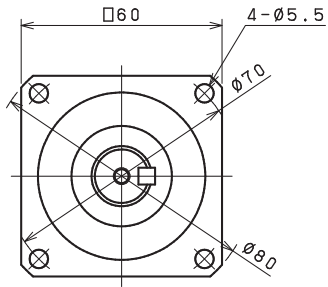
*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

*15) The weight may vary slightly between models

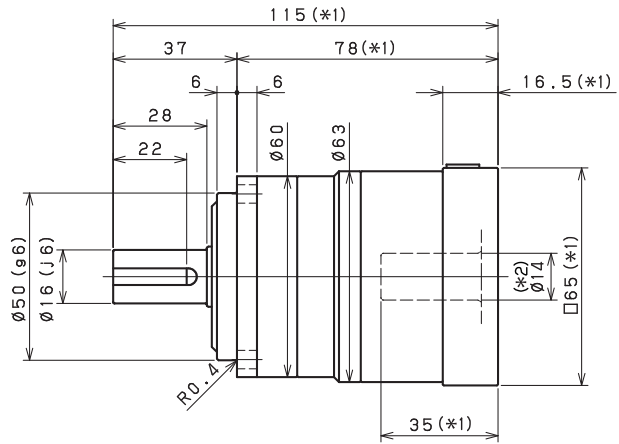
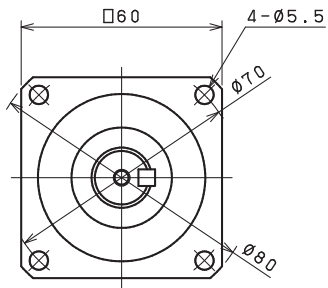
VRB-SERIES Inline shaft

VRB-o6o - 1-Stage Dimensions

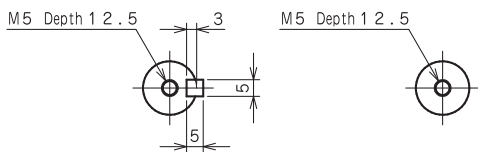
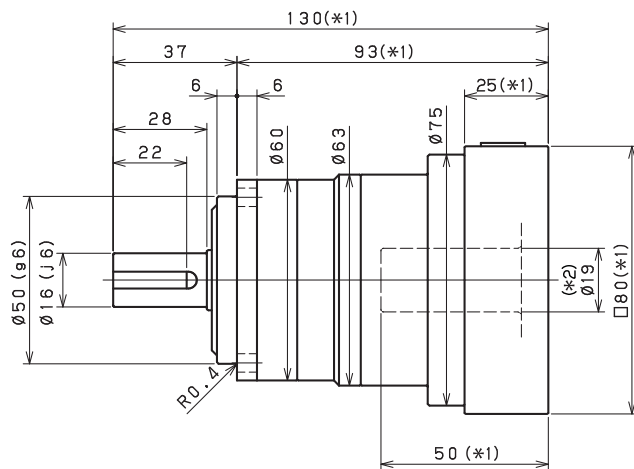
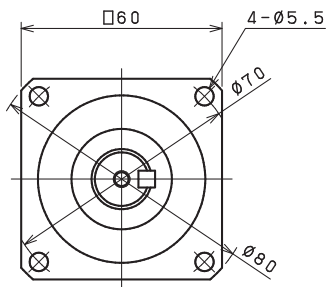
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$



Shaft with key

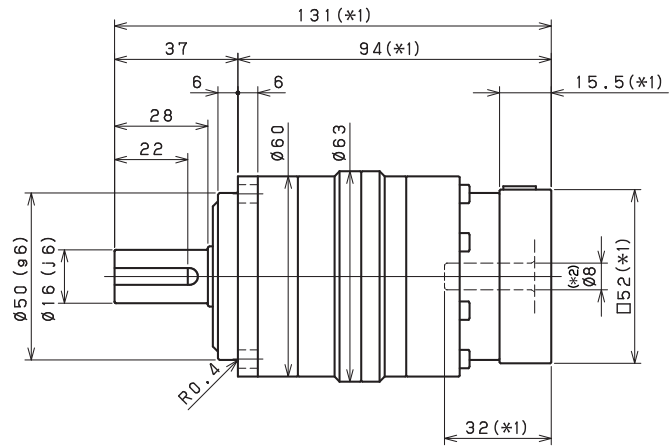
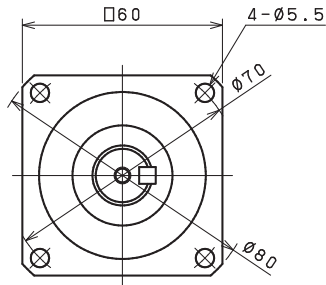
Smooth shaft

*1) Length will vary depending on motor

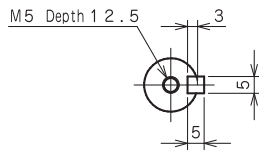
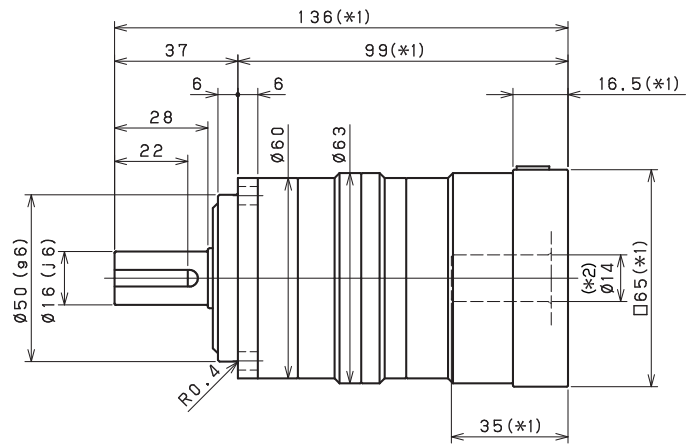
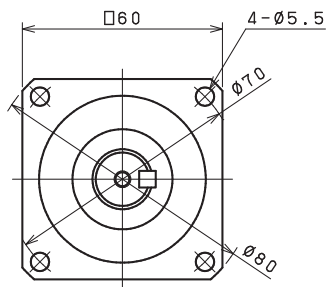
*2) Bushing will be inserted to adapt to motor shaft

VRB-o6o – 2-Stage Dimensions

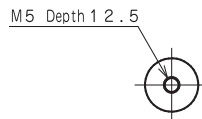
Input shaft bore $\leq \phi 8$



Input shaft bore $\leq \phi 14$



Shaft with key

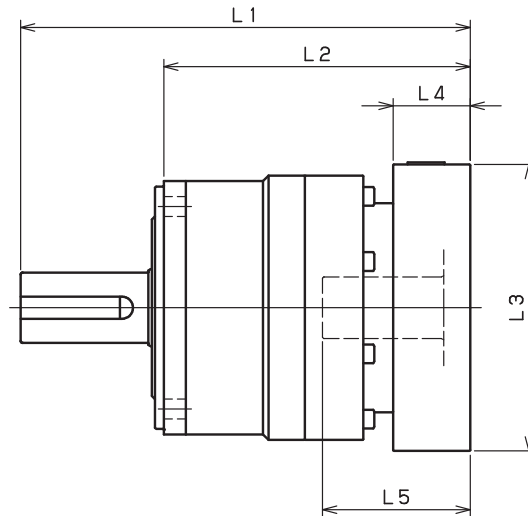


Smooth shaft

*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRB-060 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-060-□-□-8** (Input shaft bore ≤ φ8)	AA·AC·AD·AF·AG·AL·AM·AN·AQ	112	96.5	75	□52	15.5	32
	AB·AE·AH·AJ·AK	117	96.5	80	□52	20.5	37
	BA·BB·BD·BE·BG·BH·BJ	112	96.5	75	□60	15.5	32
	BC·BF	117	96.5	80	□60	20.5	37
	CA	117	96.5	80	□70	20.5	37
VRB-060-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP	115	98.5	78	□65	16.5	35
	BC·BH·BM·BN	120	98.5	83	□65	21.5	40
	BL	125	98.5	88	□65	26.5	45
	CA·CC	115	98.5	78	□70	16.5	35
	CB	120	98.5	83	□70	21.5	40
	DA·DB·DC·DD·DF·DH·DJ	115	98.5	78	□80	16.5	35
	DE·DL	120	98.5	83	□80	21.5	40
	DG·DK	125	98.5	88	□80	26.5	45
	EA·EB·EC·EF·EG·EK·EL	115	98.5	78	□90	16.5	35
	EJ·EM	120	98.5	83	□90	21.5	40
	ED·EE·EH	125	98.5	88	□90	26.5	45
	FA	115	98.5	78	□100	16.5	35
FB	125	98.5	88	□100	26.5	45	
VRB-060-□-□-19** (Input shaft bore ≤ φ19)	DA·DB·DC	130	105	93	□80	25	50
	DD	140	105	103	□80	35	60
	DE	135	105	98	□80	30	55
	EA	135	105	98	□90	30	55
	EB·ED	130	105	93	□90	25	50
	EC	140	105	103	□90	35	60
	FA	130	105	93	□100	25	50
FB	140	105	103	□100	35	60	

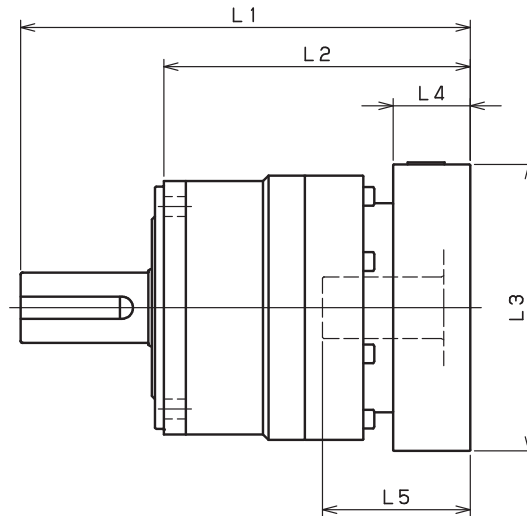
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact NIDEC-SHIMPO.

VRB-o6o – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-060-□-□-8** (Input shaft bore ≤ φ8)	AA·AC·AD·AF·AG·AL·AM·AN·AQ	131	115.5	94	□52	15.5	32
	AB·AE·AH·AJ·AK	136	115.5	99	□52	20.5	37
	BA·BB·BD·BE·BG·BH·BJ	131	115.5	94	□60	15.5	32
	BC·BF	136	115.5	99	□60	20.5	37
	CA	136	115.5	99	□70	20.5	37
VRB-060-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP	136	119.5	99	□65	16.5	35
	BC·BH·BM·BN	141	119.5	104	□65	21.5	40
	BL	146	119.5	109	□65	26.5	45
	CA·CC	136	119.5	99	□70	16.5	35
	CB	141	119.5	104	□70	21.5	40
	DA·DB·DC·DD·DF·DH·DJ	136	119.5	99	□80	16.5	35
	DE·DL	141	119.5	104	□80	21.5	40
	DG·DK	146	119.5	109	□80	26.5	45
	EA·EB·EC·EF·EG·EK·EL	136	119.5	99	□90	16.5	35
	EJ·EM	141	119.5	104	□90	21.5	40
	ED·EE·EH	146	119.5	109	□90	26.5	45
	FA	136	119.5	99	□100	16.5	35
FB	146	119.5	109	□100	26.5	45	
VRB-060-□-□-19** (Input shaft bore ≤ φ19)	DA·DB·DC	151	126	114	□80	25	50
	DD	161	126	124	□80	35	60
	DE	156	126	119	□80	30	55
	EA	156	126	119	□90	30	55
	EB·ED	151	126	114	□90	25	50
	EC	161	126	124	□90	35	60
	FA	151	126	114	□100	25	50
	FB	161	126	124	□100	35	60

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact NIDEC-SHIMPO.

VRB-SERIES Inline shaft

VRB-090 – 1-Stage Specifications

Frame Size	090									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	75	50	50
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	125	80	80
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	250	200	200
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.35							
Permitted Radial Load	[N]	*7	810	890	960	1000	1100	1100	1200	1200
Permitted Axial Load	[N]	*8	930	1100	1200	1300	1300	1400	1500	1600
Maximum Radial Load	[N]	*9	2400							
Maximum Axial Load	[N]	*10	2200							
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.720	0.490	0.400	0.360	0.320	0.310	0.290	0.290
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	1.200	0.950	0.860	0.820	0.790	0.770	0.760	0.750
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	3.200	3.000	2.900	2.800	2.800	2.800	2.800	2.800
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc-min]	*12	10							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	3.7							

VRB-090 – 2-Stage Specifications

Frame Size	090									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	50	75	75
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	80	125	125
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	200	250	250
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.06							
Permitted Radial Load	[N]	*7	1400	1400	1500	1600	1700	1700	1800	1900
Permitted Axial Load	[N]	*8	1900	1900	2100	2200	2200	2200	2200	2200
Maximum Radial Load	[N]	*9	2400							
Maximum Axial Load	[N]	*10	2200							
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.130	0.150	0.130	0.120	0.140	0.100	0.120	0.099
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.280	0.300	0.280	0.280	0.290	0.250	0.270	0.250
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.720	0.740	0.720	0.710	0.730	0.700	0.710	0.700
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	10							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	4.2							

VRB-090 – 2-Stage Specifications

Frame Size	090										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	50	50		
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	80	80		
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	200	200		
Nominal Input Speed	[rpm]	*4	3000								
Maximum Input Speed	[rpm]	*5	6000								
No Load Running Torque	[Nm]	*6	0.06								
Permitted Radial Load	[N]	*7	2000	2100	2200	2300	2400	2400	2400		
Permitted Axial Load	[N]	*8	2200	2200	2200	2200	2200	2200	2200		
Maximum Radial Load	[N]	*9	2400								
Maximum Axial Load	[N]	*10	2200								
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.120	0.098	0.098	0.097	0.097	0.097	0.097		
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.270	0.250	0.250	0.250	0.250	0.250	0.250		
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.710	0.690	0.690	0.690	0.690	0.690	0.690		
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	10								
Maximum Torsional Backlash	[arc-min]	--	≤ 3								
Noise Level	[dB]	*13	67								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	4.2								

*1) At nominal input speed, service life is 20,000 hours

*2) The maximum torque when starting or stopping operation

*3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)

*4) The average input speed

*5) The maximum intermittent input speed

*6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRB 090

*7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)

*8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)

*9) The maximum radial load that the reducer can accept

*10) The maximum axial load that the reducer can accept

*11) The efficiency at the nominal torque rating

*12) This does not include the lost motion

*13) Contact NIDEC-SHIMPO for the testing conditions and environment

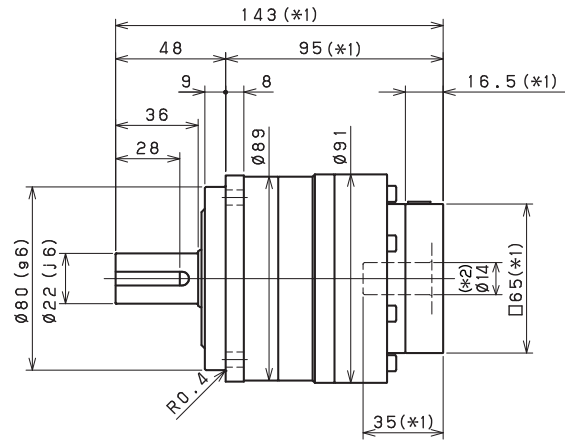
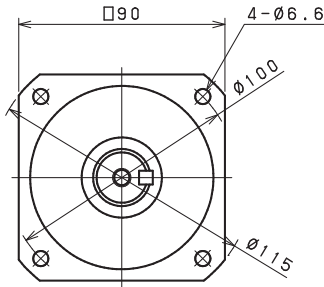
*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

*15) The weight may vary slightly between models

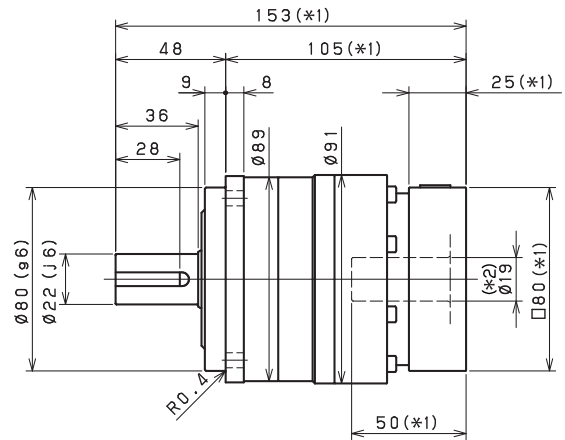
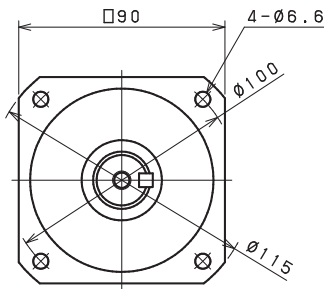
VRB-SERIES Inline shaft

VRB-090 - 1-Stage Dimensions

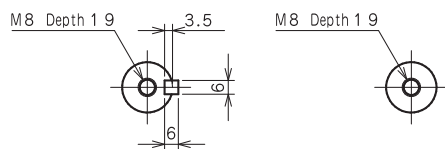
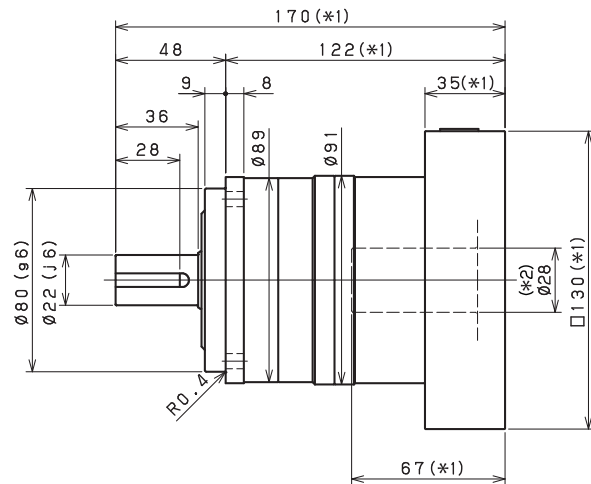
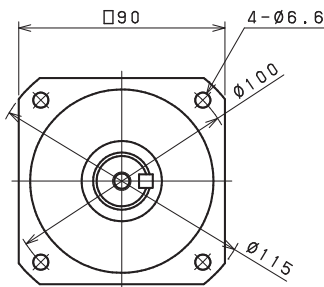
Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



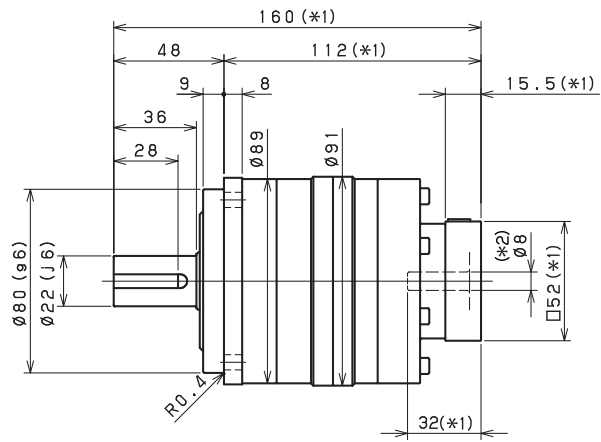
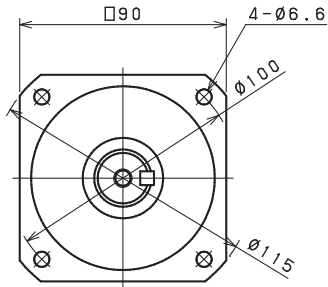
Shaft with key

Smooth shaft

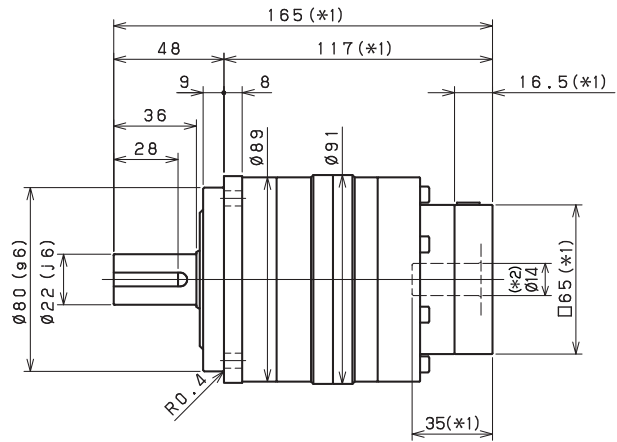
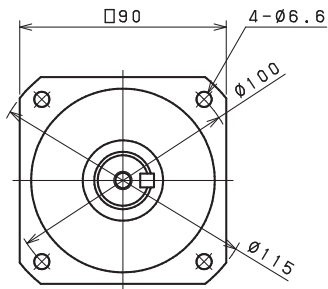
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRB-090 - 2-Stage Dimensions

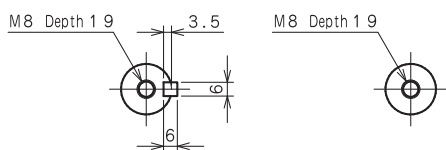
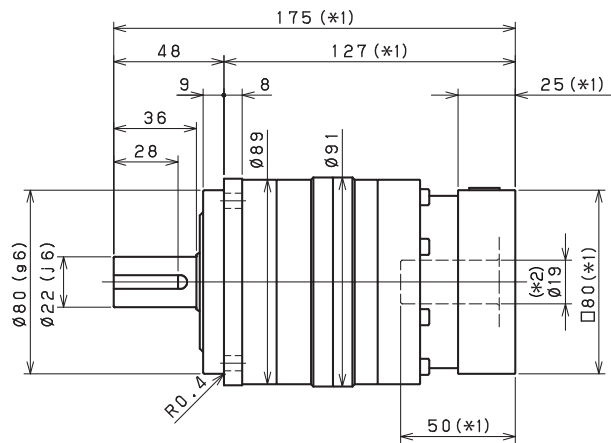
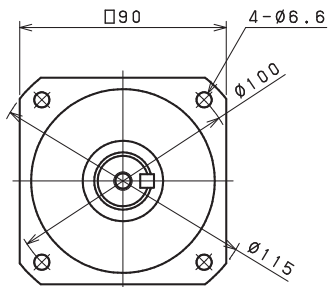
Input shaft bore $\leq \phi 8$



Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$



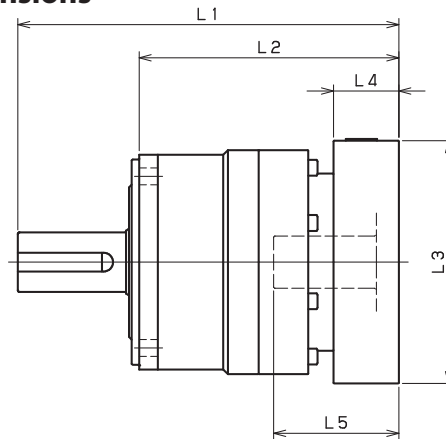
Shaft with key

Smooth shaft

*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRB-090 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-090-□-□-8** (Input shaft bore ≤ φ8)	AA·AC·AD·AF·AG·AL·AM·AN·AQ	--	--	--	--	--	--
	AB·AE·AH·AJ·AK	--	--	--	--	--	--
	BA·BB·BD·BE·BG·BH·BJ	--	--	--	--	--	--
	CA	--	--	--	--	--	--
VRB-090-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP	143	126.5	95	□65	16.5	35
	BC·BH·BM·BN	148	126.5	100	□65	21.5	40
	CA·CC	143	126.5	95	□70	16.5	35
	DA·DB·DC·DD·DF·DH·DJ	143	126.5	95	□80	16.5	35
	EA·EB·EC·EF·EG·EK·EL	143	126.5	95	□90	16.5	35
	FA	143	126.5	95	□100	16.5	35
	FB	153	126.5	105	□100	26.5	45
VRB-090-□-□-19** (Input shaft bore ≤ φ19)	JA	158	126.5	110	□150	31.5	50
	DA·DB·DC	153	128	105	□80	25	50
	EB·ED	153	128	105	□90	25	50
	FA	153	128	105	□100	25	50
	FB	163	128	115	□100	35	60
	GA·GC·GH	158	128	110	□115	30	55
	GB·GD·GJ	153	128	105	□115	25	50
	GE·GF	163	128	115	□115	35	60
	HA	153	128	105	□130	25	50
	HB	168	128	120	□130	40	65
	HC·HD·HE	158	128	110	□130	30	55
VRB-090-□-□-28** (Input shaft bore ≤ φ28)	JA	163	128	115	□150	35	60
	JB	168	128	120	□150	40	65
	FA·FB·FC	170	135	122	□100	35	67
	FD·FE	165	135	117	□100	30	62
	GA·GB·GC·GD·GE·GF·GG·GH	170	135	122	□115	35	67
	HA·HC·HD	170	135	122	□130	35	67
	HB	180	135	132	□130	45	77
	HE	185	135	137	□130	50	82
	HF	165	135	117	□130	30	62
VRB-090-□-□-28** (Input shaft bore ≤ φ28)	JA·JB·JC·JF	170	135	122	□150	35	67
	JD	190	135	142	□150	55	87
	JE	180	135	132	□150	45	77

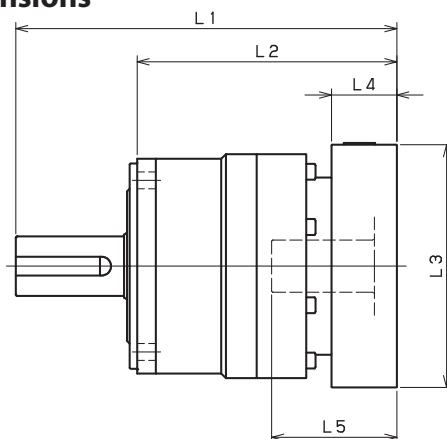
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact NIDEC-SHIMPO.

VRB-090 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-090-□-□-8** (Input shaft bore ≤ φ8)	AA•AC•AD•AF•AG•AL•AM•AN•AQ	160	144.5	112	□52	15.5	32
	AB•AE•AH•AJ•AK	165	144.5	117	□52	20.5	37
	BA•BB•BD•BE•BG•BH•BJ	160	144.5	112	□60	15.5	32
	CA	165	144.5	117	□70	20.5	37
VRB-090-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	165	148.5	117	□65	16.5	35
	BC•BH•BM•BN	170	148.5	122	□65	21.5	40
	CA•CC	165	148.5	117	□70	16.5	35
	DA•DB•DC•DD•DF•DH•DJ	165	148.5	117	□80	16.5	35
	EA•EB•EC•EF•EG•EK•EL	165	148.5	117	□90	16.5	35
	FA	165	148.5	117	□100	16.5	35
	FB	175	148.5	127	□100	26.5	45
VRB-090-□-□-19** (Input shaft bore ≤ φ19)	JA	180	148.5	132	□150	31.5	50
	DA•DB•DC	175	150	127	□80	25	50
	EB•ED	175	150	127	□90	25	50
	FA	175	150	127	□100	25	50
	FB	185	150	137	□100	35	60
	GA•GC•GH	180	150	132	□115	30	55
	GB•GD•GJ	175	150	127	□115	25	50
	GE•GF	185	150	137	□115	35	60
	HA	175	150	127	□130	25	50
	HB	190	150	142	□130	40	65
	HC•HD•HE	180	150	132	□130	30	55
VRB-090-□-□-28** (Input shaft bore ≤ φ28)	JA	185	150	137	□150	35	60
	JB	190	150	142	□150	40	65
	FA•FB•FC	194	159	146	□100	35	67
	FD•FE	189	159	141	□100	30	62
	GA•GB•GC•GD•GE•GF•GG•GH	194	159	146	□115	35	67
	HA•HC•HD	194	159	146	□130	35	67
	HB	204	159	156	□130	45	77
	HE	209	159	161	□130	50	82
	HF	189	159	141	□130	30	62
VRB-090-□-□-28** (Input shaft bore ≤ φ28)	JA•JB•JC•JF	194	159	146	□150	35	67
	JD	214	159	166	□150	55	87
	JE	204	159	156	□150	45	77

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact NIDEC-SHIMPO.

VRB-SERIES Inline shaft

VRB-115 – 1-Stage Specifications

Frame Size	115									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	120	120	180	180	180	180	120	120
Maximum Acceleration Torque	[Nm]	*2	225	330	330	330	330	330	225	225
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	625	500	500
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	1.30							
Permitted Radial Load	[N]	*7	1300	1500	1600	1700	1800	1900	1900	2000
Permitted Axial Load	[N]	*8	1500	1700	1900	2000	2100	2300	2400	2500
Maximum Radial Load	[N]	*9	4300							
Maximum Axial Load	[N]	*10	3900							
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	3.300	2.000	1.600	1.300	1.100	1.000	0.980	0.950
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	5.300	4.100	3.600	3.300	3.200	3.100	3.000	3.000
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	13.000	12.000	11.000	11.000	11.000	11.000	11.000	11.000
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc-min]	*12	31							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	71							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	8							

VRB-115 – 2-Stage Specifications

Frame Size	115									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	120	180	180	180	180	120	180	180
Maximum Acceleration Torque	[Nm]	*2	225	330	330	330	330	225	330	330
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	500	625	625
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.42							
Permitted Radial Load	[N]	*7	2300	2300	2500	2700	2800	2900	3000	3200
Permitted Axial Load	[N]	*8	3000	3100	3400	3700	3900	3900	3900	3900
Maximum Radial Load	[N]	*9	4300							
Maximum Axial Load	[N]	*10	3900							
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.430	0.480	0.400	0.380	0.440	0.290	0.370	0.280
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.860	0.920	0.830	0.820	0.880	0.740	0.810	0.730
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	2.800	2.900	2.800	2.800	2.800	2.700	2.700	2.700
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	31							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	71							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	8.9							

VRB-115 – 2-Stage Specifications

Frame Size	115										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	120	180	180	180	180	120	120		
Maximum Acceleration Torque	[Nm]	*2	225	330	330	330	330	225	225		
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	500	500		
Nominal Input Speed	[rpm]	*4	3000								
Maximum Input Speed	[rpm]	*5	6000								
No Load Running Torque	[Nm]	*6	0.42								
Permitted Radial Load	[N]	*7	3300	3400	3600	3800	4000	4200	4300		
Permitted Axial Load	[N]	*8	3900	3900	3900	3900	3900	3900	3900		
Maximum Radial Load	[N]	*9	4300								
Maximum Axial Load	[N]	*10	3900								
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.370	0.280	0.280	0.280	0.280	0.270	0.270		
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.800	0.730	0.730	0.730	0.730	0.730	0.730		
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	2.700	2.700	2.700	2.700	2.700	2.700	2.700		
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	31								
Maximum Torsional Backlash	[arc-min]	--	≤ 3								
Noise Level	[dB]	*13	71								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	8.9								

*1) At nominal input speed, service life is 20,000 hours

*2) The maximum torque when starting or stopping operation

*3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)

*4) The average input speed

*5) The maximum intermittent input speed

*6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRB 115

*7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)

*8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)

*9) The maximum radial load that the reducer can accept

*10) The maximum axial load that the reducer can accept

*11) The efficiency at the nominal torque rating

*12) This does not include the lost motion

*13) Contact NIDEC-SHIMPO for the testing conditions and environment

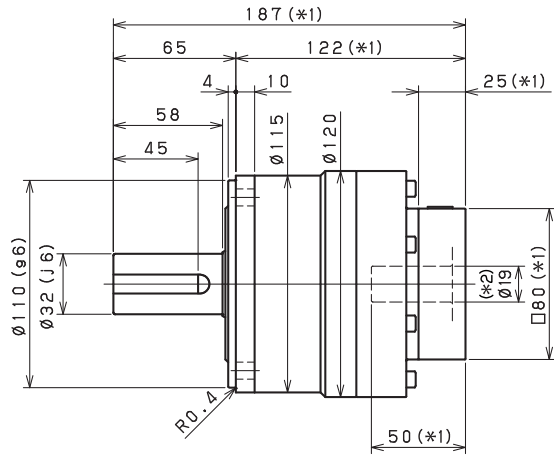
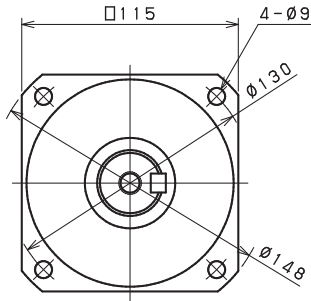
*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

*15) The weight may vary slightly between models

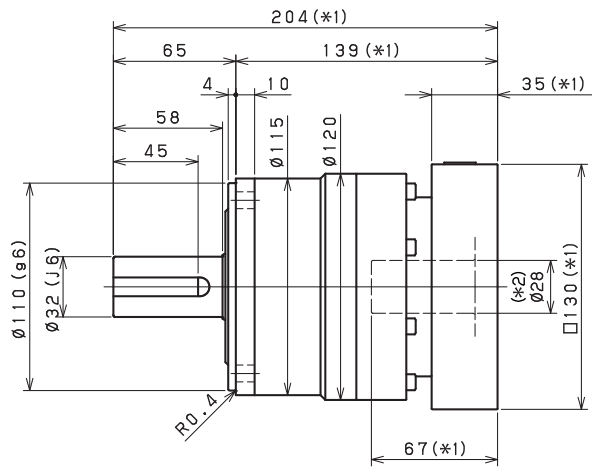
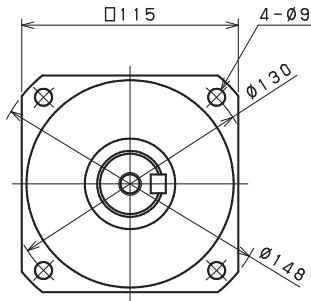
VRB-SERIES Inline shaft

VRB-115 - 1-Stage Dimensions

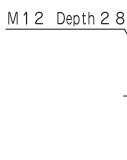
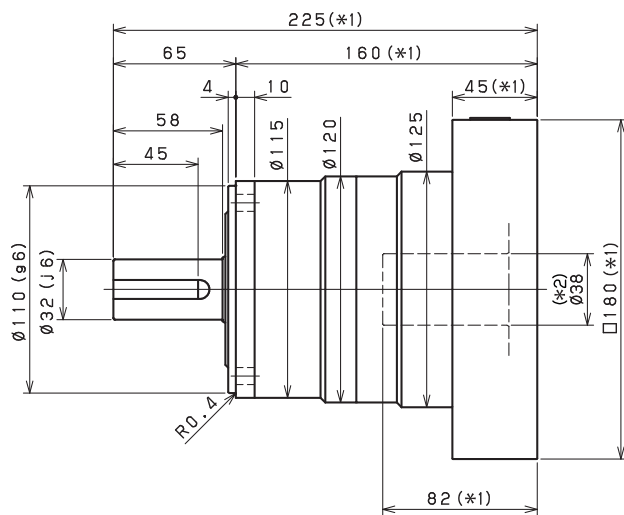
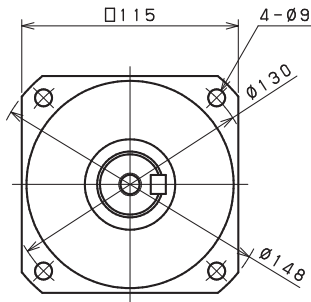
Input shaft bore $\leq \varnothing 19$



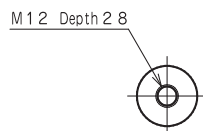
Input shaft bore $\leq \varnothing 28$



Input shaft bore $\leq \varnothing 38$



Shaft with key



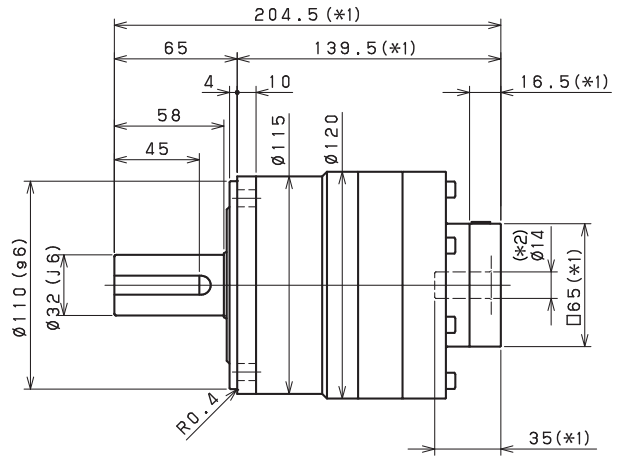
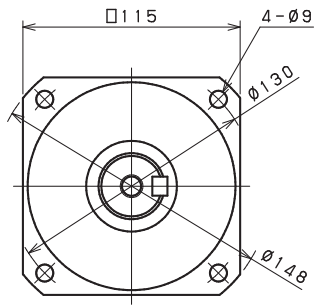
Smooth shaft

*1) Length will vary depending on motor

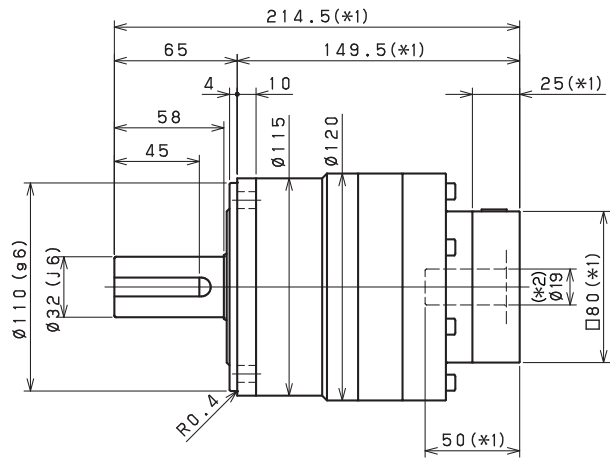
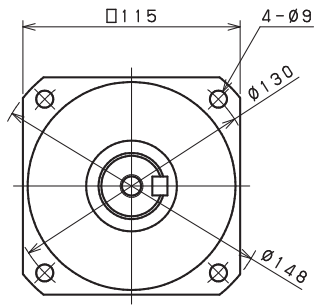
*2) Bushing will be inserted to adapt to motor shaft

VRB-115 – 2-Stage Dimensions

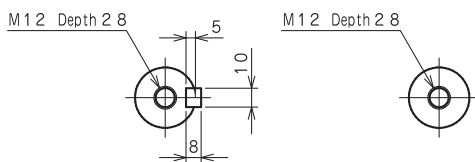
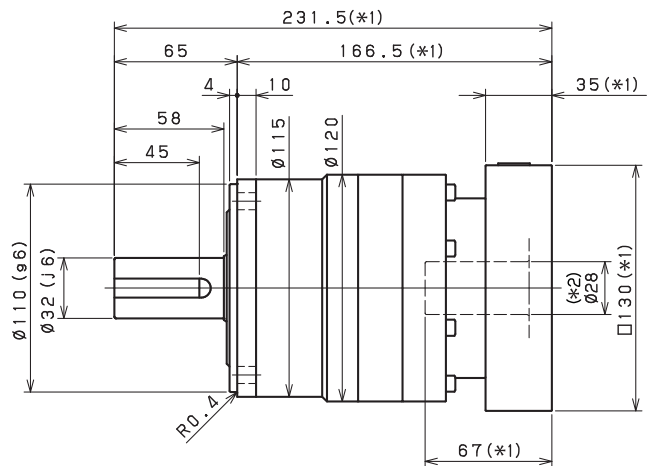
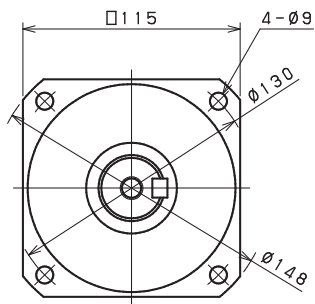
Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$



Input shaft bore $\leq \varnothing 28$



Shaft with key

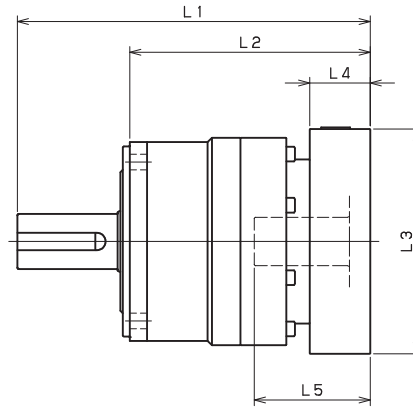
Smooth shaft

*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRB-SERIES Inline shaft

VRB-115 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-115-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	--	--	--	--	--	--
	BC•BH•BM•BN	--	--	--	--	--	--
	CA•CC	--	--	--	--	--	--
	DA•DB•DC•DD•DF•DH•DJ	--	--	--	--	--	--
	EA•EB•EC•EF•EG•EK•EL	--	--	--	--	--	--
	FA	--	--	--	--	--	--
	FB	--	--	--	--	--	--
VRB-115-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	187	162	122	□80	25	50
	EB•ED	187	162	122	□90	25	50
	FA	187	162	122	□100	25	50
	FB	197	162	132	□100	35	60
	GB•GD•GJ	187	162	122	□115	25	50
	HA	187	162	122	□130	25	50
	HB	202	162	137	□130	40	65
VRB-115-□-□-28** (Input shaft bore ≤ φ28)	JA	197	162	132	□150	35	60
	FA•FB•FC	204	169	139	□100	35	67
	FD•FE	199	169	134	□100	30	62
	GA•GB•GC•GD•GE•GF•GG•GH	204	169	139	□115	35	67
	HA•HC•HD	204	169	139	□130	35	67
	HB	214	169	149	□130	45	77
	HE	219	169	154	□130	50	82
	HF	199	169	134	□130	30	62
	JA•JB•JC•JF	204	169	139	□150	35	67
	JD	224	169	159	□150	55	87
VRB-115-□-□-38** (Input shaft bore ≤ φ38)	JE	214	169	149	□150	45	77
	KA•KB•KE	204	169	139	□180	35	67
	KD	214	169	149	□180	45	77
	HA	225	180	160	□130	45	82
	HB•HE	220	180	155	□130	40	77
	JA	225	180	160	□150	45	82
	KA•KB•KC	225	180	160	□180	45	82
	KD	260	180	195	□180	80	117
	KE	240	180	175	□180	60	97

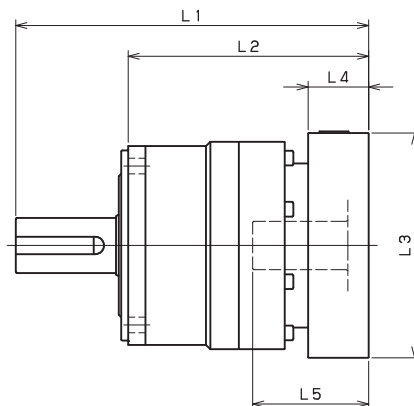
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact NIDEC-SHIMPO.

VRB-115 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-115-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	204.5	188	139.5	□65	16.5	35
	BC•BH•BM•BN	209.5	188	144.5	□65	21.5	40
	CA•CC	204.5	188	139.5	□70	16.5	35
	DA•DB•DC•DD•DF•DH•DJ	204.5	188	139.5	□80	16.5	35
	EA•EB•EC•EF•EG•EK•EL	204.5	188	139.5	□90	16.5	35
	FA	204.5	188	139.5	□100	16.5	35
	FB	214.5	188	149.5	□100	26.5	45
VRB-115-□-□-19** (Input shaft bore ≤ φ19)	JA	219.5	188	154.5	□150	31.5	50
	DA•DB•DC	214.5	189.5	149.5	□80	25	50
	EB•ED	214.5	189.5	149.5	□90	25	50
	FA	214.5	189.5	149.5	□100	25	50
	FB	224.5	189.5	159.5	□100	35	60
	GB•GD•GJ	214.5	189.5	149.5	□115	25	50
	HA	214.5	189.5	149.5	□130	25	50
VRB-115-□-□-28** (Input shaft bore ≤ φ28)	HB	229.5	189.5	164.5	□130	40	65
	JA	224.5	189.5	159.5	□150	35	60
	FA•FB•FC	231.5	196.5	166.5	□100	35	67
	FD•FE	226.5	196.5	161.5	□100	30	62
	GA•GB•GC•GD•GE•GF•GG•GH	231.5	196.5	166.5	□115	35	67
	HA•HC•HD	231.5	196.5	166.5	□130	35	67
	HB	241.5	196.5	176.5	□130	45	77
	HE	246.5	196.5	181.5	□130	50	82
	HF	226.5	196.5	161.5	□130	30	62
	JA•JB•JC•JF	231.5	196.5	166.5	□150	35	67
	JD	251.5	196.5	186.5	□150	55	87
VRB-115-□-□-38** (Input shaft bore ≤ φ38)	JE	241.5	196.5	176.5	□150	45	77
	KA•KB•KE	231.5	196.5	166.5	□180	35	67
	KD	241.5	196.5	176.5	□180	45	77
	HA	249	204	184	□130	45	82
	HB•HE	244	204	179	□130	40	77
VRB-115-□-□-38** (Input shaft bore ≤ φ38)	JA	249	204	184	□150	45	82
	KA•KB•KC	249	204	184	□180	45	82
	KD	284	204	219	□180	80	117
	KE	264	204	199	□180	60	97

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact NIDEC-SHIMPO.

VRB-SERIES Inline shaft

VRB-140 – 1-Stage Specifications

Frame Size	140									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	240	240	360	360	360	360	240	240
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	700	470	470
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1250	1000	1000
Nominal Input Speed	[rpm]	*4	2000							
Maximum Input Speed	[rpm]	*5	4000							
No Load Running Torque	[Nm]	*6	1.63							
Permitted Radial Load	[N]	*7	3200	3500	3800	4000	4200	4400	4600	4700
Permitted Axial Load	[N]	*8	2400	2700	3000	3300	3500	3700	3900	4100
Maximum Radial Load	[N]	*9	9100							
Maximum Axial Load	[N]	*10	8200							
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	12.000	7.500	5.800	4.900	4.100	3.800	3.600	3.500
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	20.000	15.000	14.000	13.000	12.000	12.000	11.000	11.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	42.000	37.000	36.000	35.000	34.000	34.000	34.000	34.000
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc-min]	*12	60							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	16							

VRB-140 – 2-Stage Specifications

Frame Size	140									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	240	360	360	360	360	240	360	360
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	470	700	700
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1000	1250	1250
Nominal Input Speed	[rpm]	*4	2000							
Maximum Input Speed	[rpm]	*5	4000							
No Load Running Torque	[Nm]	*6	0.56							
Permitted Radial Load	[N]	*7	5400	5500	6000	6400	6700	6800	7200	7500
Permitted Axial Load	[N]	*8	4900	5000	5500	6100	6400	6600	7000	7500
Maximum Radial Load	[N]	*9	9100							
Maximum Axial Load	[N]	*10	8200							
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	1.300	1.500	1.200	1.100	1.400	0.850	1.100	0.830
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	3.200	3.500	3.100	3.100	3.300	2.800	3.100	2.800
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	11.000	11.000	11.000	11.000	11.000	10.000	11.000	10.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	60							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	17							

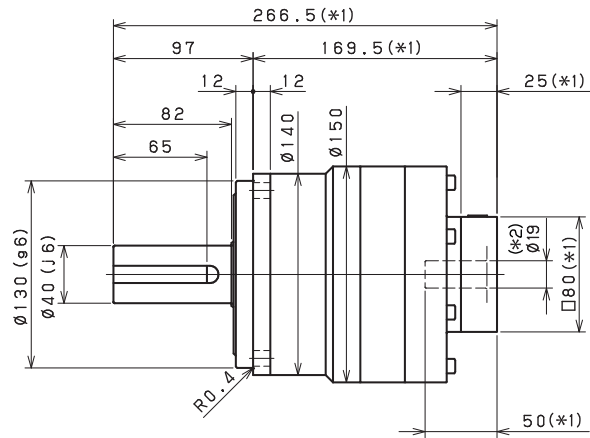
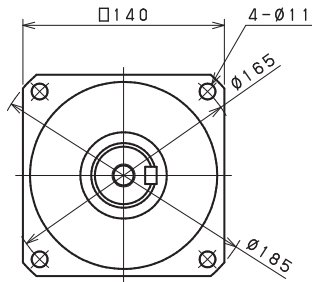
VRB-140 – 2-Stage Specifications

Frame Size	140										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	240	360	360	360	360	240	240		
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	470	470		
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1000	1000		
Nominal Input Speed	[rpm]	*4	2000								
Maximum Input Speed	[rpm]	*5	4000								
No Load Running Torque	[Nm]	*6	0.56								
Permitted Radial Load	[N]	*7	7800	8100	8600	9100	9100	9100	9100		
Permitted Axial Load	[N]	*8	7900	8200	8200	8200	8200	8200	8200		
Maximum Radial Load	[N]	*9	9100								
Maximum Axial Load	[N]	*10	8200								
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	1.100	0.810	0.810	0.800	0.800	0.800	0.800		
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	3.000	2.800	2.800	2.800	2.800	2.800	2.800		
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	11.000	10.000	10.000	10.000	10.000	10.000	10.000		
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	60								
Maximum Torsional Backlash	[arc-min]	--	≤ 3								
Noise Level	[dB]	*13	67								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	17								

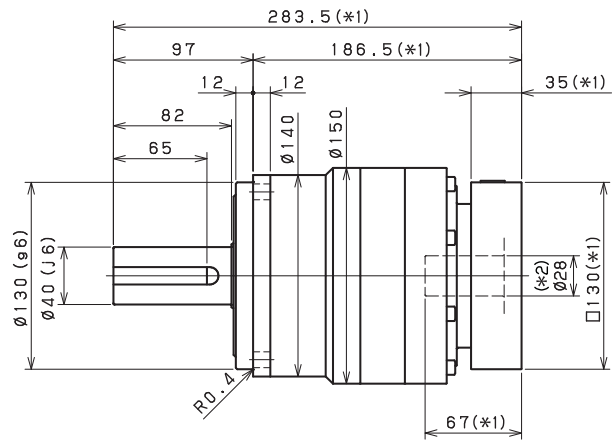
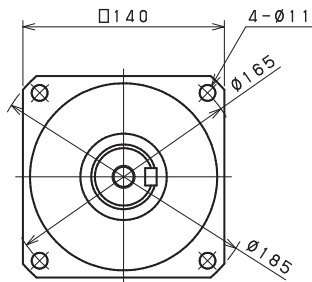
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 2,000 rpm for VRB140
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact NIDEC-SHIMPO for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-140 – 2-Stage Dimensions

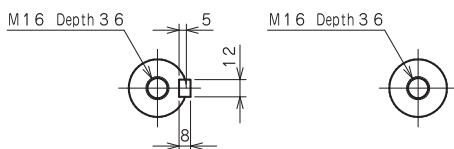
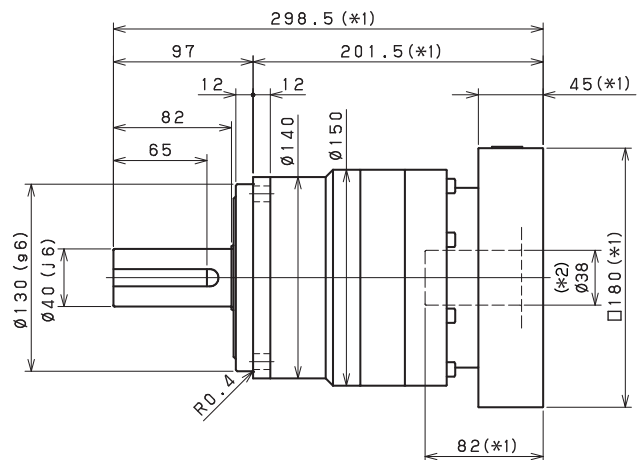
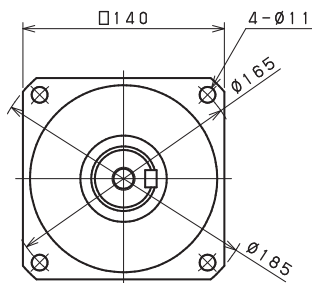
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



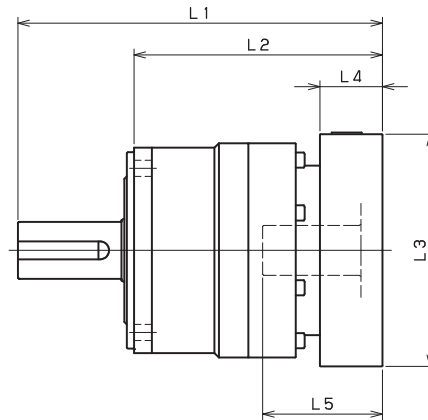
Shaft with key

Smooth shaft

*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRB-140 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-140-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	--	--	--	--	--	--
	EB•ED	--	--	--	--	--	--
	FA	--	--	--	--	--	--
	FB	--	--	--	--	--	--
	GB•GD•GJ	--	--	--	--	--	--
	HA	--	--	--	--	--	--
	HB	--	--	--	--	--	--
VRB-140-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	249	214	152	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	249	214	152	□115	35	67
	HA•HC•HD	249	214	152	□130	35	67
	HB	259	214	162	□130	45	77
	HF	244	214	147	□130	30	62
	JA•JB•JC•JF	249	214	152	□150	35	67
	KA•KB•KE	249	214	152	□180	35	67
	LA	249	214	152	□200	35	67
	LB	259	214	162	□200	45	77
	MA	249	214	152	□220	35	67
VRB-140-□-□-38** (Input shaft bore ≤ φ38)	MB	259	214	162	□220	45	77
	HA	264	219	167	□130	45	82
	HB•HE	259	219	162	□130	40	77
	JA	264	219	167	□150	45	82
	KA•KB•KC	264	219	167	□180	45	82
	KD	299	219	202	□180	80	117
	KE	279	219	182	□180	60	97
	LB	274	219	177	□200	55	92
	MA•MB	264	219	167	□220	45	82
VRB-140-□-□-48** (Input shaft bore ≤ φ48)	MC	279	219	182	□220	60	97
	MD	274	219	177	□220	55	92
	KA	305	230	208	□180	75	118
	KB•KC	285	230	188	□180	55	98
	LA	285	230	188	□200	55	98
MA	285	230	188	□220	55	98	
MB	305	230	208	□220	75	118	

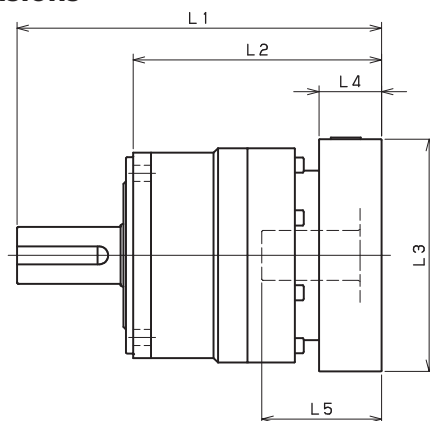
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact NIDEC-SHIMPO.

VRB-140 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-140-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	266.5	241.5	169.5	□80	25	50
	EB•ED	266.5	241.5	169.5	□90	25	50
	FA	266.5	241.5	169.5	□100	25	50
	FB	276.5	241.5	179.5	□100	35	60
	GB•GD•GJ	266.5	241.5	169.5	□115	25	50
	HA	266.5	241.5	169.5	□130	25	50
	HB	281.5	241.5	184.5	□130	40	65
VRB-140-□-□-28** (Input shaft bore ≤ φ28)	JA	276.5	241.5	179.5	□150	35	60
	FA•FB•FC	283.5	248.5	186.5	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	283.5	248.5	186.5	□115	35	67
	HA•HC•HD	283.5	248.5	186.5	□130	35	67
	HB	293.5	248.5	196.5	□130	45	77
	HF	278.5	248.5	181.5	□130	30	62
	JA•JB•JC•JF	283.5	248.5	186.5	□150	35	67
	KA•KB•KE	283.5	248.5	186.5	□180	35	67
	LA	283.5	248.5	186.5	□200	35	67
	LB	293.5	248.5	196.5	□200	45	77
VRB-140-□-□-38** (Input shaft bore ≤ φ38)	MA	283.5	248.5	186.5	□220	35	67
	MB	293.5	248.5	196.5	□220	45	77
	HA	298.5	253.5	201.5	□130	45	82
	HB•HE	293.5	253.5	196.5	□130	40	77
	JA	298.5	253.5	201.5	□150	45	82
	KA•KB•KC	298.5	253.5	201.5	□180	45	82
	KD	333.5	253.5	236.5	□180	80	117
	KE	313.5	253.5	216.5	□180	60	97
	LB	308.5	253.5	211.5	□200	55	92
VRB-140-□-□-48** (Input shaft bore ≤ φ48)	MA•MB	298.5	253.5	201.5	□220	45	82
	MC	313.5	253.5	216.5	□220	60	97
	MD	308.5	253.5	211.5	□220	55	92
	KA	339.5	264.5	242.5	□180	75	118
	KB•KC	319.5	264.5	222.5	□180	55	98
	LA	319.5	264.5	222.5	□200	55	98
	MA	319.5	264.5	222.5	□220	55	98
	MB	339.5	264.5	242.5	□220	75	118

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

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VRB-SERIES Inline shaft

VRB-180 – 1-Stage Specifications

Frame Size	180									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	750	500	500
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	1400	970	970
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2750	2200	2200
Nominal Input Speed	[rpm]	*4	1500							
Maximum Input Speed	[rpm]	*5	3000							
No Load Running Torque	[Nm]	*6	2.68							
Permitted Radial Load	[N]	*7	5600	6200	6700	7100	7400	7800	8100	8400
Permitted Axial Load	[N]	*8	4300	4900	5400	5800	6300	6600	7000	7300
Maximum Radial Load	[N]	*9	15000							
Maximum Axial Load	[N]	*10	14000							
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	44.000	28.000	22.000	18.000	16.000	15.000	14.000	14.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	66.000	50.000	44.000	41.000	38.000	37.000	36.000	36.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	130.000	110.000	100.000	100.000	99.000	97.000	97.000	96.000
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc-min]	*12	175							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	36							

VRB-180 – 2-Stage Specifications

Frame Size	180									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	500	750	750
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	970	1400	1400
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2200	2750	2750
Nominal Input Speed	[rpm]	*4	1500							
Maximum Input Speed	[rpm]	*5	3000							
No Load Running Torque	[Nm]	*6	1.39							
Permitted Radial Load	[N]	*7	9600	9800	11000	11000	12000	12000	13000	13000
Permitted Axial Load	[N]	*8	8700	8900	9900	11000	11000	12000	13000	13000
Maximum Radial Load	[N]	*9	15000							
Maximum Axial Load	[N]	*10	14000							
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	4.700	5.400	4.400	4.200	4.900	3.200	4.100	3.200
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	12.000	13.000	12.000	12.000	13.000	11.000	12.000	11.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	34.000	35.000	34.000	34.000	35.000	33.000	34.000	33.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	175							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	37							

VRB-180 – 2-Stage Specifications

Frame Size	180										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	500	500		
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	970	970		
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2200	2200		
Nominal Input Speed	[rpm]	*4	1500								
Maximum Input Speed	[rpm]	*5	3000								
No Load Running Torque	[Nm]	*6	1.39								
Permitted Radial Load	[N]	*7	14000	14000	15000	15000	15000	15000	15000		
Permitted Axial Load	[N]	*8	14000	14000	14000	14000	14000	14000	14000		
Maximum Radial Load	[N]	*9	15000								
Maximum Axial Load	[N]	*10	14000								
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	4.000	3.100	3.100	3.100	3.100	3.100	3.100		
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	12.000	11.000	11.000	11.000	11.000	11.000	11.000		
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	34.000	33.000	33.000	33.000	33.000	33.000	33.000		
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	175								
Maximum Torsional Backlash	[arc-min]	--	≤ 3								
Noise Level	[dB]	*13	67								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	37								

*1) At nominal input speed, service life is 20,000 hours

*2) The maximum torque when starting or stopping operation

*3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)

*4) The average input speed

*5) The maximum intermittent input speed

*6) This is the torque at no load applied on the input shaft. The input speed is 1,500 rpm for VRB180

*7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)

*8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)

*9) The maximum radial load that the reducer can accept

*10) The maximum axial load that the reducer can accept

*11) The efficiency at the nominal torque rating

*12) This does not include the lost motion

*13) Contact NIDEC-SHIMPO for the testing conditions and environment

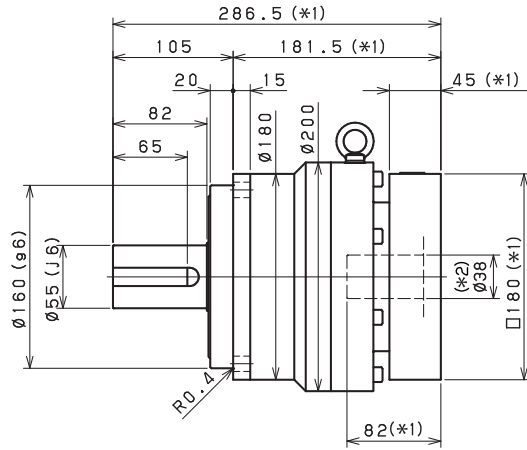
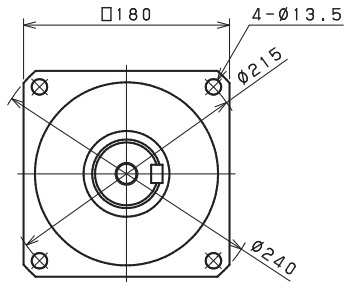
*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

*15) The weight may vary slightly between models

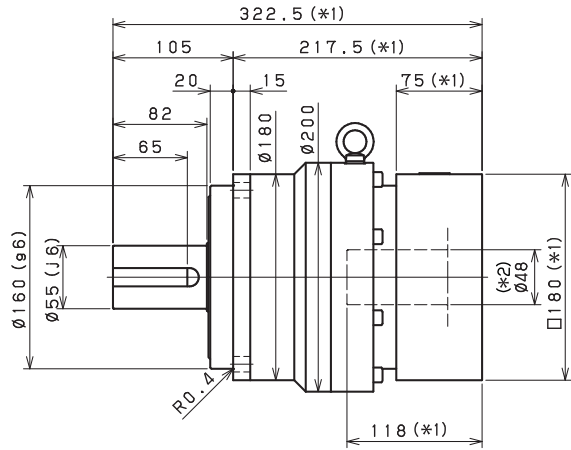
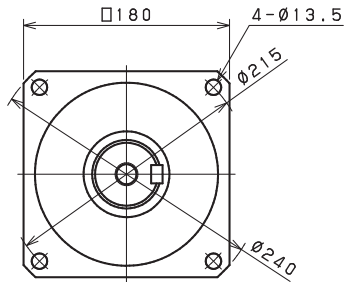
VRB-SERIES Inline shaft

VRB-180 – 1-Stage Dimensions

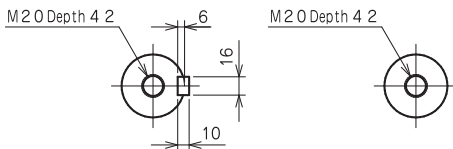
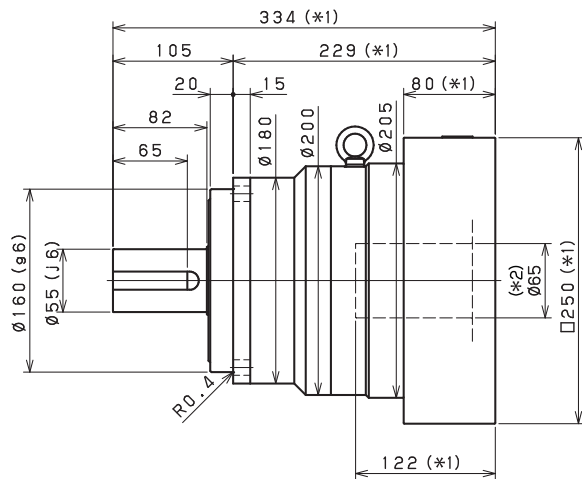
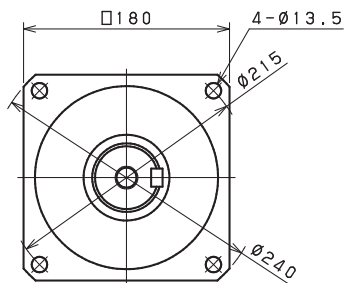
Input shaft bore $\cong \varnothing 38$



Input shaft bore $\cong \varnothing 48$



Input shaft bore $\cong \varnothing 65$



Shaft with key

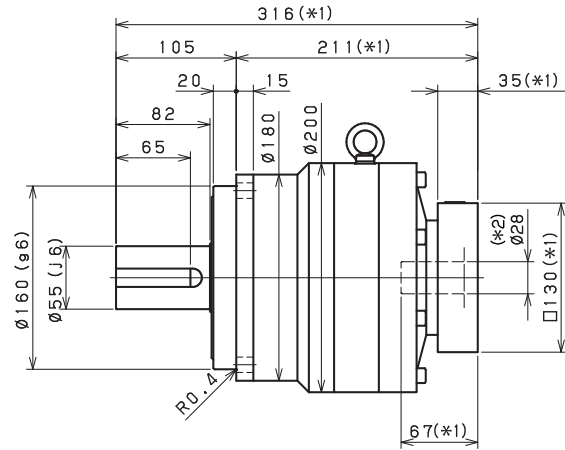
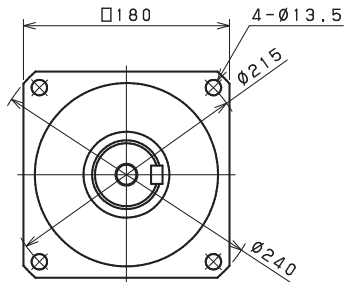
Smooth shaft

*1) Length will vary depending on motor

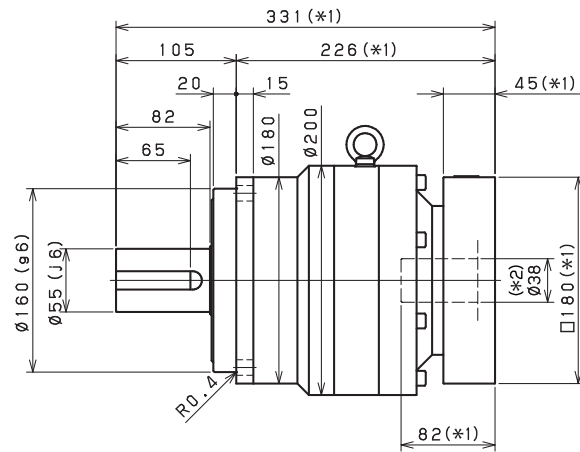
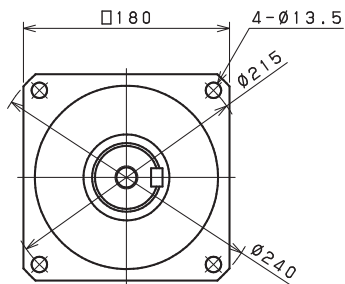
*2) Bushing will be inserted to adapt to motor shaft

VRB-180 – 2-Stage Dimensions

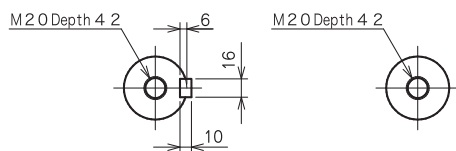
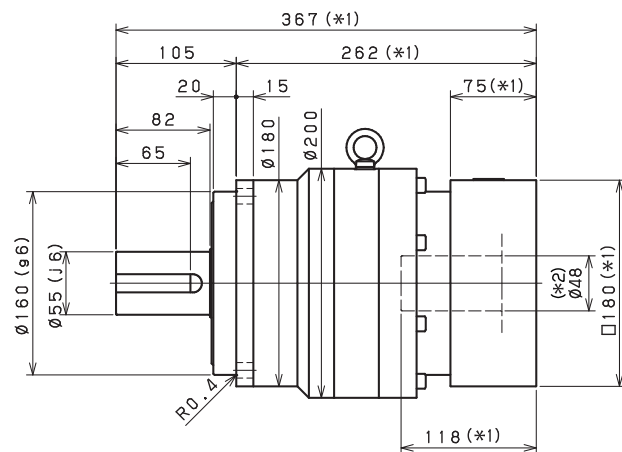
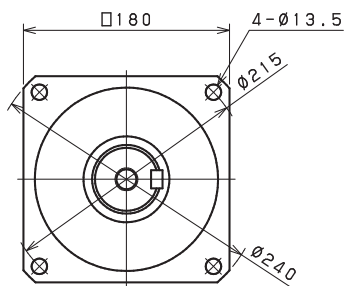
Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



Input shaft bore $\leq \phi 48$



Shaft with key

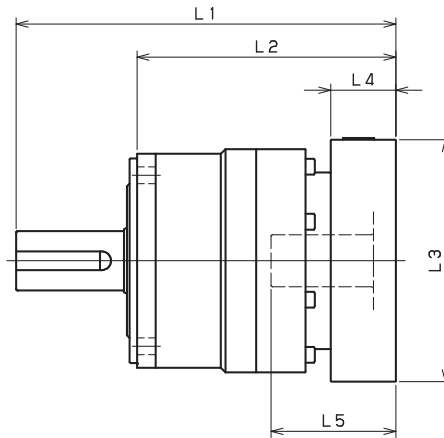
Smooth shaft

*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRB-SERIES Inline shaft

VRB-180 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-180-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	--	--	--	--	--	--
	GA•GB•GC•GD•GE•GF•GG•GH	--	--	--	--	--	--
	HA•HC•HD	--	--	--	--	--	--
	HB	--	--	--	--	--	--
	HF	--	--	--	--	--	--
	JA•JB•JC•JF	--	--	--	--	--	--
	KA•KB•KE	--	--	--	--	--	--
	LA	--	--	--	--	--	--
	LB	--	--	--	--	--	--
	MA	--	--	--	--	--	--
VRB-180-□-□-38** (Input shaft bore ≤ φ38)	HA	286.5	241.5	181.5	□130	45	82
	HB•HE	281.5	241.5	176.5	□130	40	77
	JA	286.5	241.5	181.5	□150	45	82
	KA•KB•KC	286.5	241.5	181.5	□180	45	82
	KD	321.5	241.5	216.5	□180	80	117
	KE	301.5	241.5	196.5	□180	60	97
	MA•MB	286.5	241.5	181.5	□220	45	82
	MC	301.5	241.5	196.5	□220	60	97
	MD	296.5	241.5	191.5	□220	55	92
	NA	286.5	241.5	181.5	□250	45	82
VRB-180-□-□-48** (Input shaft bore ≤ φ48)	KA	322.5	247.5	217.5	□180	75	118
	KB•KC	302.5	247.5	197.5	□180	55	98
	LA	302.5	247.5	197.5	□200	55	98
	MA	302.5	247.5	197.5	□220	55	98
	MB	322.5	247.5	217.5	□220	75	118
	NA	322.5	247.5	217.5	□250	75	118
	PA	322.5	247.5	217.5	□280	75	118
VRB-180-□-□-65** (Input shaft bore ≤ φ65)	MA•MB•MC•MD	334	254	229	□220	80	122
	NA•NC	334	254	229	□250	80	122
	NB•ND	364	254	259	□250	110	152
	PA	354	254	249	□280	100	142
	PB	364	254	259	□280	110	152

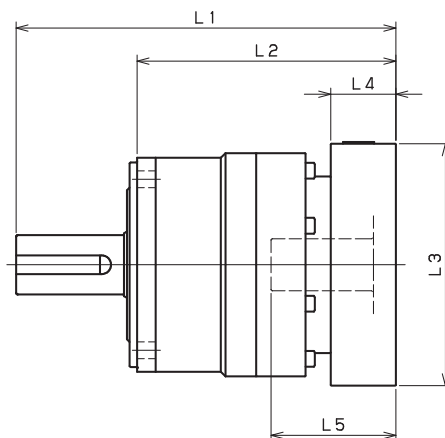
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

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VRB-180 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-180-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	316	281	211	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	316	281	211	□115	35	67
	HA•HC•HD	316	281	211	□130	35	67
	HB	326	281	221	□130	45	77
	HF	311	281	206	□130	30	62
	JA•JB•JC•JF	316	281	211	□150	35	67
	KA•KB•KE	316	281	211	□180	35	67
	LA	316	281	211	□200	35	67
	LB	326	281	221	□200	45	77
	MA	316	281	211	□220	35	67
VRB-180-□-□-38** (Input shaft bore ≤ φ38)	HA	331	286	226	□130	45	82
	HB•HE	326	286	221	□130	40	77
	JA	331	286	226	□150	45	82
	KA•KB•KC	331	286	226	□180	45	82
	KD	366	286	261	□180	80	117
	KE	346	286	241	□180	60	97
	MA•MB	331	286	226	□220	45	82
	MC	346	286	241	□220	60	97
	MD	341	286	236	□220	55	92
NA	331	286	226	□250	45	82	
VRB-180-□-□-48** (Input shaft bore ≤ φ48)	KA	367	292	262	□180	75	118
	KB•KC	347	292	242	□180	55	98
	LA	347	292	242	□200	55	98
	MA	347	292	242	□220	55	98
	MB	367	292	262	□220	75	118
	NA	367	292	262	□250	75	118
	PA	367	292	262	□280	75	118
VRB-180-□-□-65** (Input shaft bore ≤ φ65)	MA•MB•MC•MD	--	--	--	--	--	--
	NA•NC	--	--	--	--	--	--
	NB•ND	--	--	--	--	--	--
	PA	--	--	--	--	--	--
	PB	--	--	--	--	--	--

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact NIDEC-SHIMPO.

VRB-SERIES Inline shaft

VRB-220 – 1-Stage Specifications

Frame Size	220									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1500	1000	1000
Maximum Acceleration Torque	[Nm]	*2	1600	2300	2300	2300	2300	2200	1900	1600
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	5000	4000	4000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	2.92							
Permitted Radial Load	[N]	*7	5800	6400	6900	7300	7700	8000	8400	8700
Permitted Axial Load	[N]	*8	6400	7200	7900	8600	9200	9700	10000	11000
Maximum Radial Load	[N]	*9	15000							
Maximum Axial Load	[N]	*10	14000							
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	90.000	62.000	52.000	47.000	42.000	40.000	39.000	38.000
Moment of Inertia ($\leq \emptyset 65$)	[kgcm ²]	--	150.000	120.000	110.000	110.000	100.000	100.000	99.000	98.000
Efficiency	[%]	*11	97							
Torsional Rigidity	[Nm/arc-min]	*12	400							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	53							

VRB-220 – 2-Stage Specifications

Frame Size	220									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1000	1500	1500
Maximum Acceleration Torque	[Nm]	*2	1600	2300	2300	2300	2300	1600	2300	2300
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	4000	5000	5000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	1.14							
Permitted Radial Load	[N]	*7	9900	10000	11000	12000	12000	13000	13000	14000
Permitted Axial Load	[N]	*8	13000	13000	14000	14000	14000	14000	14000	14000
Maximum Radial Load	[N]	*9	15000							
Maximum Axial Load	[N]	*10	14000							
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	14.000	16.000	14.000	14.000	15.000	12.000	13.000	12.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	36.000	37.000	35.000	35.000	36.000	34.000	35.000	33.000
Moment of Inertia ($\leq \emptyset 65$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	92							
Torsional Rigidity	[Nm/arc-min]	*12	400							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	54							

VRB-220 – 2-Stage Specifications

Frame Size	220										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1000	1000		
Maximum Acceleration Torque	[Nm]	*2	1300	2300	2300	2300	1800	1300	1200		
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	4000	4000		
Nominal Input Speed	[rpm]	*4	1000								
Maximum Input Speed	[rpm]	*5	2000								
No Load Running Torque	[Nm]	*6	1.14								
Permitted Radial Load	[N]	*7	14000	15000	15000	15000	15000	15000	15000		
Permitted Axial Load	[N]	*8	14000	14000	14000	14000	14000	14000	14000		
Maximum Radial Load	[N]	*9	15000								
Maximum Axial Load	[N]	*10	14000								
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	13.000	12.000	12.000	12.000	12.000	12.000	12.000		
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	35.000	33.000	33.000	33.000	33.000	33.000	33.000		
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	92								
Torsional Rigidity	[Nm/arc-min]	*12	400								
Maximum Torsional Backlash	[arc-min]	--	≤ 3								
Noise Level	[dB]	*13	61								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	54								

*1) At nominal input speed, service life is 20,000 hours

*2) The maximum torque when starting or stopping operation

*3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)

*4) The average input speed

*5) The maximum intermittent input speed

*6) This is the torque at no load applied on the input shaft. The input speed is 1,000 rpm for VRB220

*7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)

*8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)

*9) The maximum radial load that the reducer can accept

*10) The maximum axial load that the reducer can accept

*11) The efficiency at the nominal torque rating

*12) This does not include the lost motion

*13) Contact NIDEC-SHIMPO for the testing conditions and environment

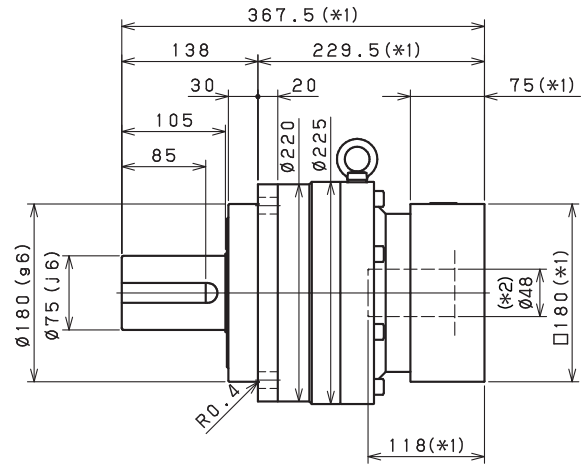
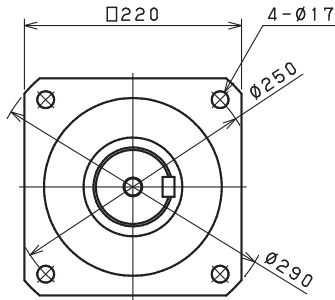
*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

*15) The weight may vary slightly between models

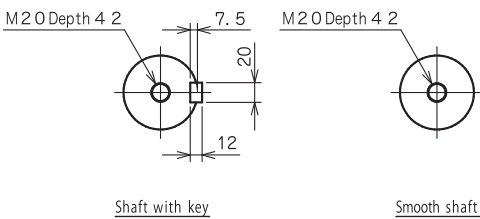
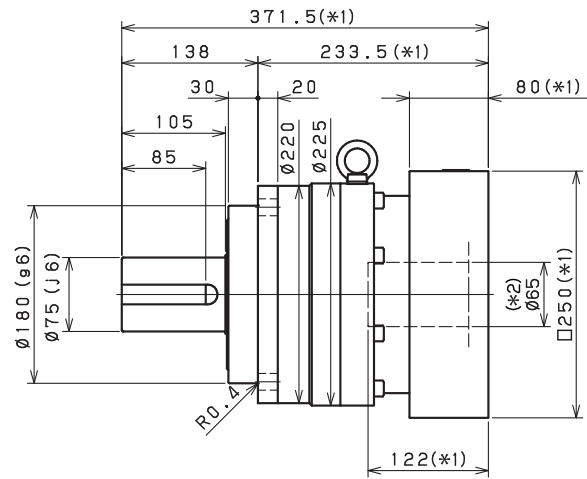
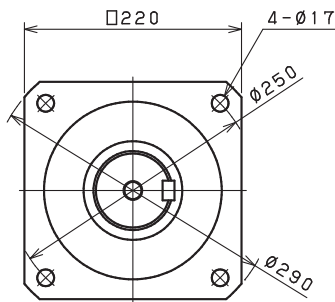
VRB-SERIES Inline shaft

VRB-220 – 1-Stage Dimensions

Input shaft bore $\leq \phi 48$



Input shaft bore $\leq \phi 65$



Shaft with key

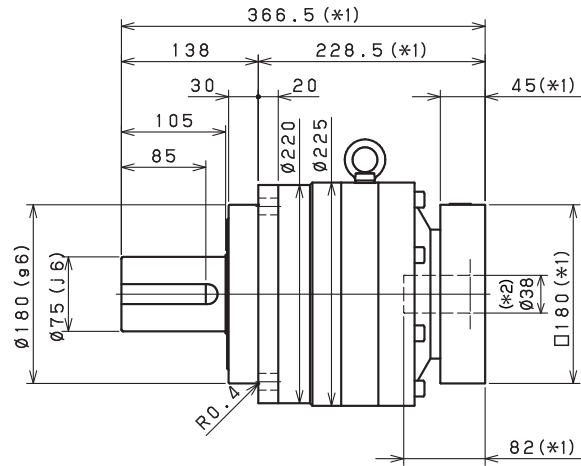
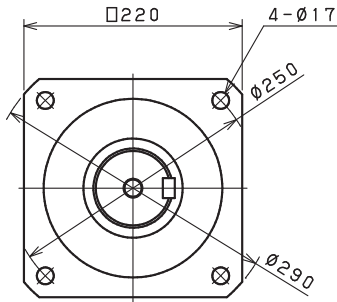
Smooth shaft

*1) Length will vary depending on motor

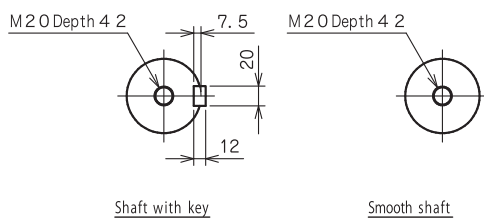
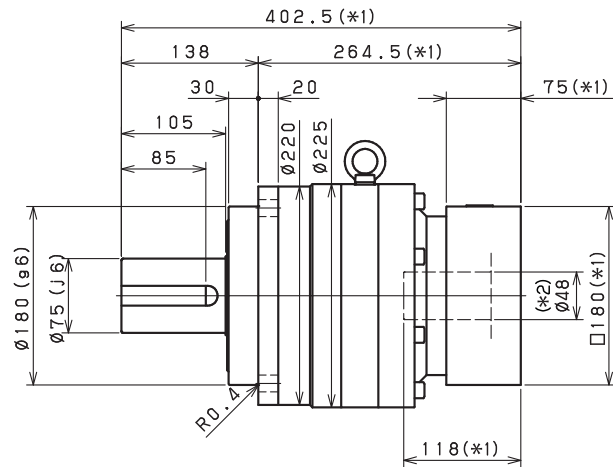
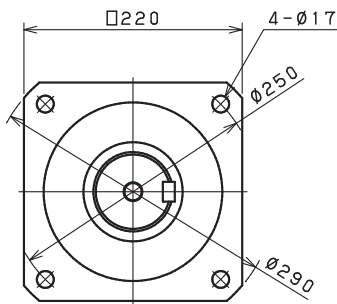
*2) Bushing will be inserted to adapt to motor shaft

VRB-220 – 2-Stage Dimensions

Input shaft bore $\leq \phi 38$



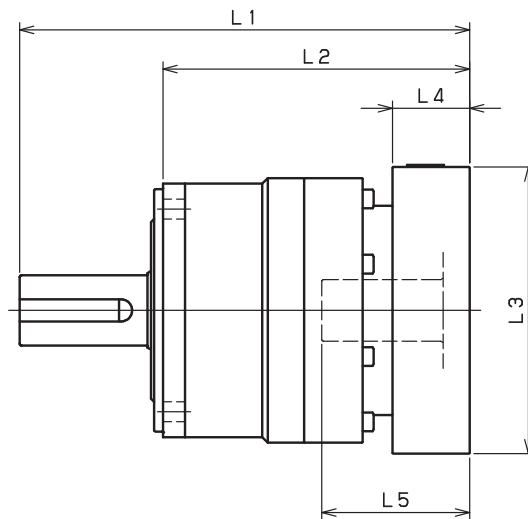
Input shaft bore $\leq \phi 48$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRB-220 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-220-□-□-38** (Input shaft bore ≤ φ38)	HA	--	--	--	--	--	--
	HB-HE	--	--	--	--	--	--
	JA	--	--	--	--	--	--
	KA-KB-KC	--	--	--	--	--	--
	KD	--	--	--	--	--	--
	KE	--	--	--	--	--	--
	LA	--	--	--	--	--	--
	LB	--	--	--	--	--	--
	MA-MB	--	--	--	--	--	--
	MC	--	--	--	--	--	--
	MD	--	--	--	--	--	--
VRB-220-□-□-48** (Input shaft bore ≤ φ48)	KA	367.5	292.5	229.5	□180	75	118
	KB-KC	347.5	292.5	209.5	□180	55	98
	LA	347.5	292.5	209.5	□200	55	98
	MA	347.5	292.5	209.5	□220	55	98
	MB	367.5	292.5	229.5	□220	75	118
	NA	367.5	292.5	229.5	□250	75	118
	PA	367.5	292.5	229.5	□280	75	118
VRB-220-□-□-65** (Input shaft bore ≤ φ65)	MA-MB-MC-MD	371.5	291.5	233.5	□220	80	122
	NA-NC	371.5	291.5	233.5	□250	80	122
	NB-ND	401.5	291.5	263.5	□250	110	152
	PA	391.5	291.5	253.5	□280	100	142
	PB	401.5	291.5	263.5	□280	110	152
	QA-QB	391.5	291.5	253.5	□320	100	142

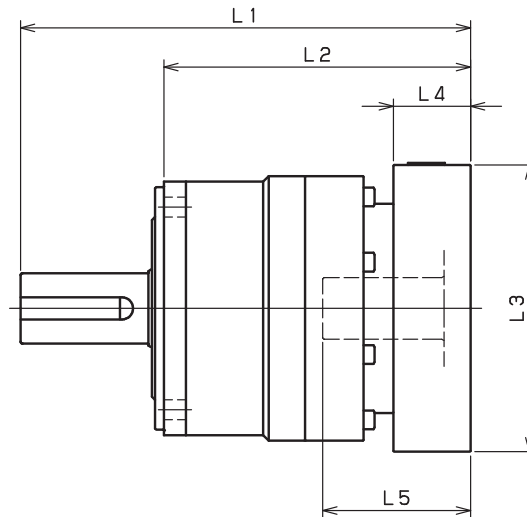
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact NIDEC-SHIMPO.

VRB-220 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-220-□-□-38** (Input shaft bore ≤ φ38)	HA	366.5	321.5	228.5	□130	45	82
	HB-HE	361.5	321.5	223.5	□130	40	77
	JA	366.5	321.5	228.5	□150	45	82
	KA-KB-KC	366.5	321.5	228.5	□180	45	82
	KD	401.5	321.5	263.5	□180	80	117
	KE	381.5	321.5	243.5	□180	60	97
	LA	366.5	321.5	228.5	□200	45	82
	LB	376.5	321.5	238.5	□200	55	92
	MA-MB	366.5	321.5	228.5	□220	45	82
	MC	381.5	321.5	243.5	□220	60	97
	MD	376.5	321.5	238.5	□220	55	92
VRB-220-□-□-48** (Input shaft bore ≤ φ48)	NA	366.5	321.5	228.5	□250	45	82
	KA	402.5	327.5	264.5	□180	75	118
	KB-KC	382.5	327.5	244.5	□180	55	98
	LA	382.5	327.5	244.5	□200	55	98
	MA	382.5	327.5	244.5	□220	55	98
	MB	402.5	327.5	264.5	□220	75	118
	NA	402.5	327.5	264.5	□250	75	118
VRB-220-□-□-65** (Input shaft bore ≤ φ65)	PA	402.5	327.5	264.5	□280	75	118
	MA-MB-MC-MD	--	--	--	--	--	--
	NA-NC	--	--	--	--	--	--
	NB-ND	--	--	--	--	--	--
	PA	--	--	--	--	--	--
	PB	--	--	--	--	--	--
QA-QB	--	--	--	--	--	--	

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact NIDEC-SHIMPO.