

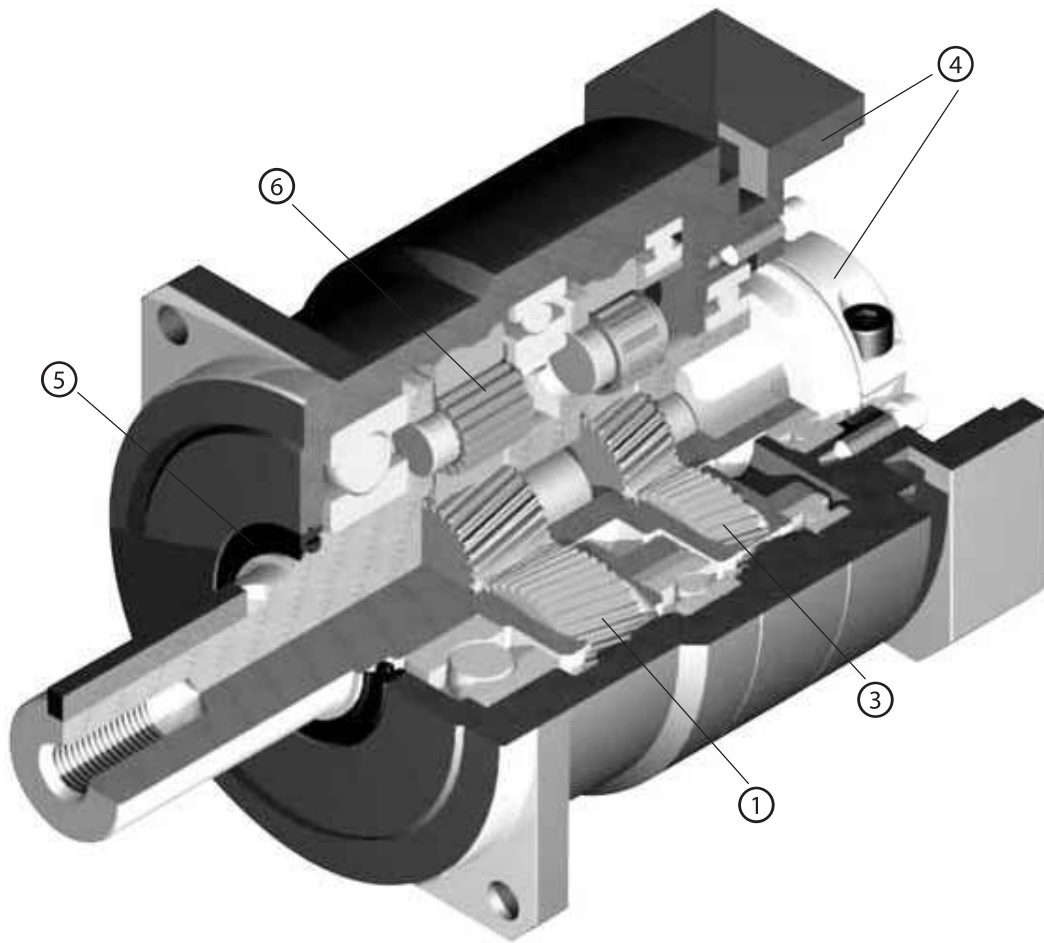


VRB-SERIES

- 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

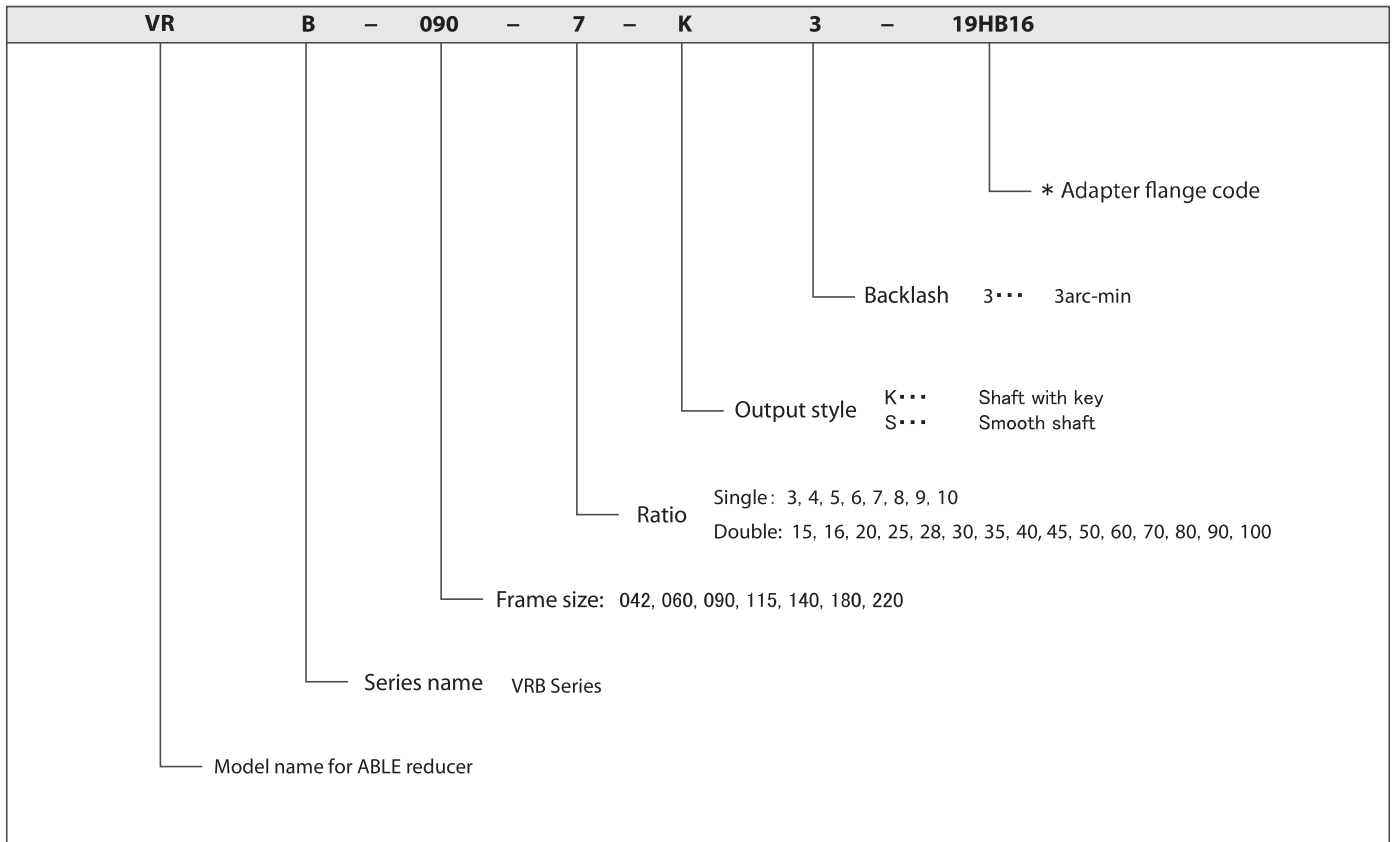
VRB-SERIES Inline shaft

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

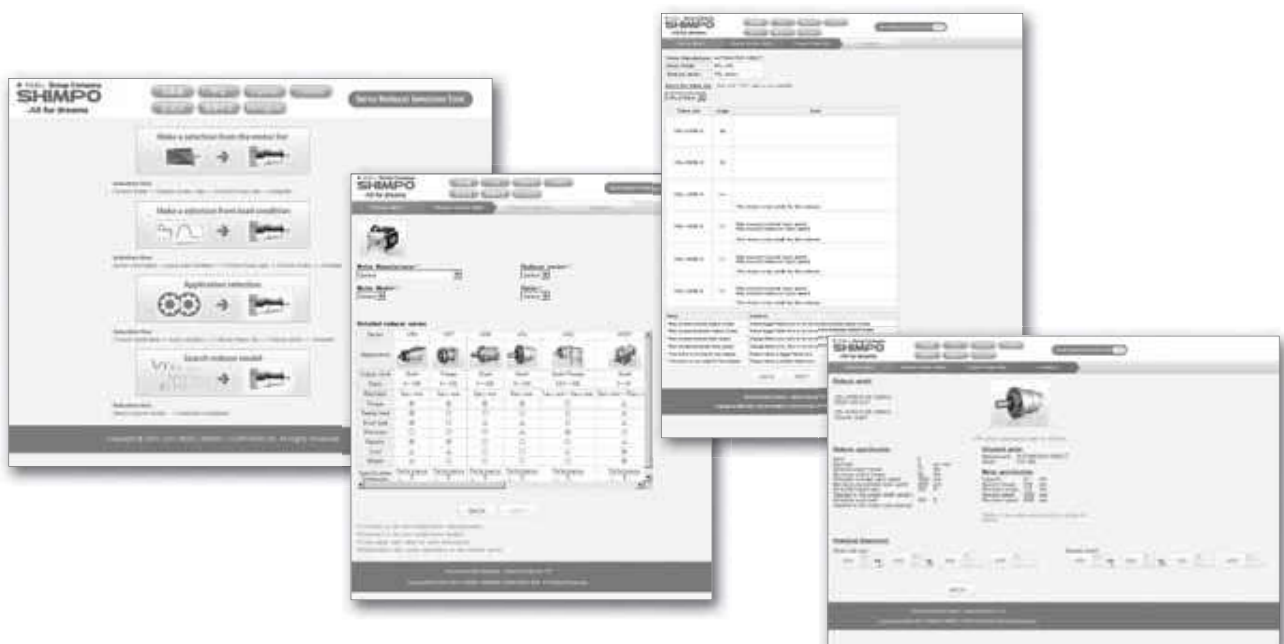
VRB-Series – Model Code



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							

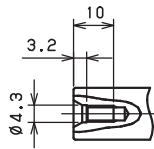
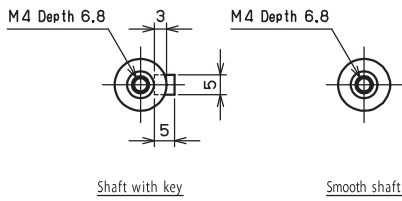
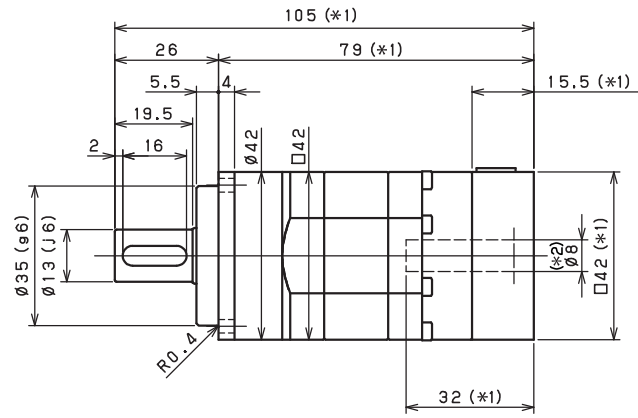
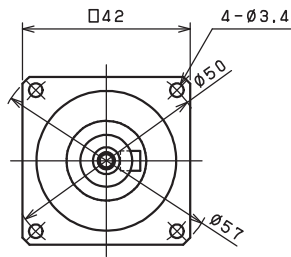
VRB-042 – 2-Stage Specifications

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

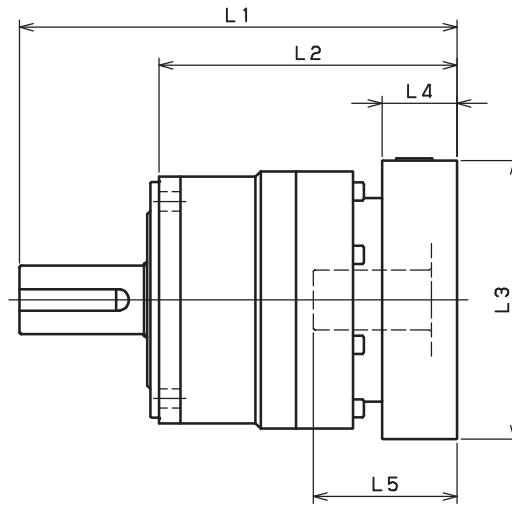
Input shaft bore $\leq \phi 8$



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

VRB-SERIES Inline 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

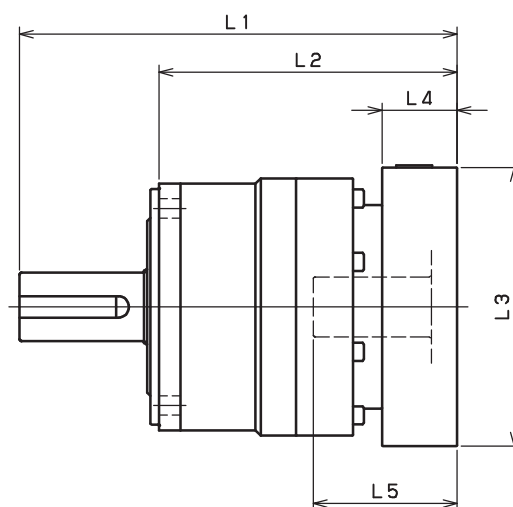
*1) Single reduction : 1/3~ 1/10

*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



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.

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VRB-SERIES Inline shaft

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

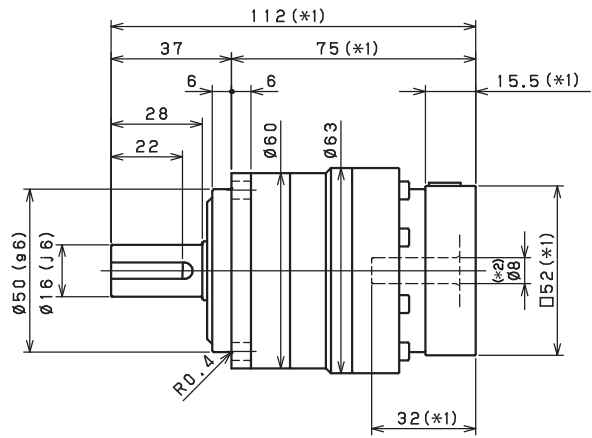
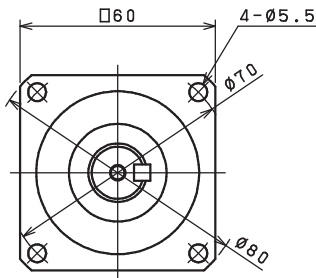
*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

*15) The weight may vary slightly between models

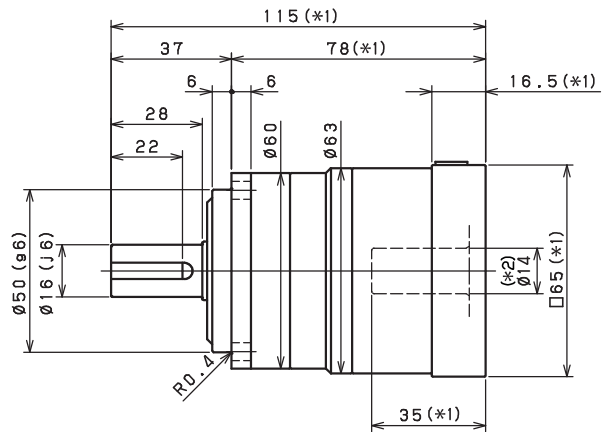
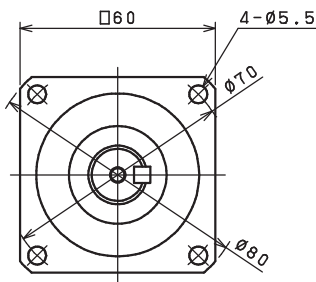
VRB-SERIES Inline shaft

VRB-o60 – 1-Stage Dimensions

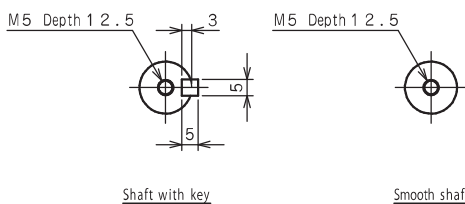
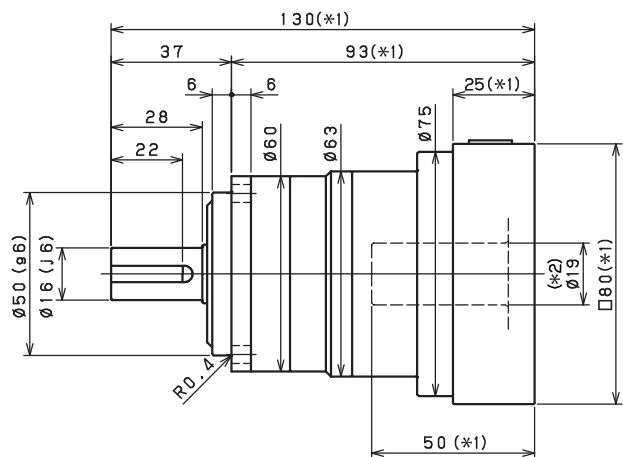
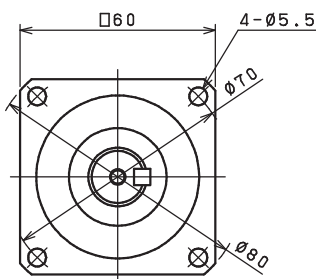
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$

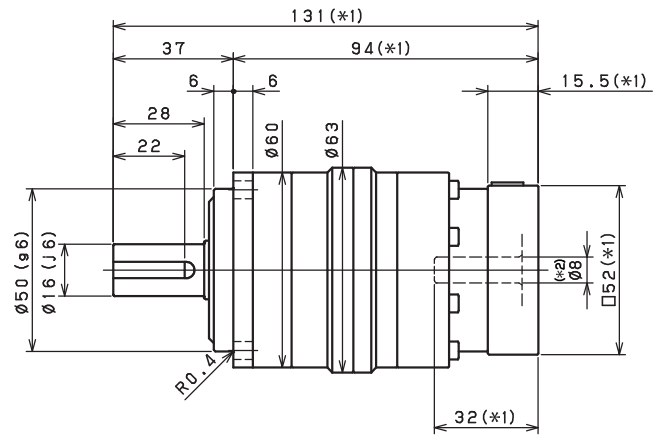
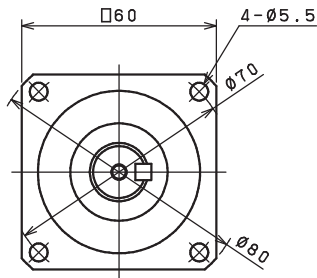


*1) Length will vary depending on motor

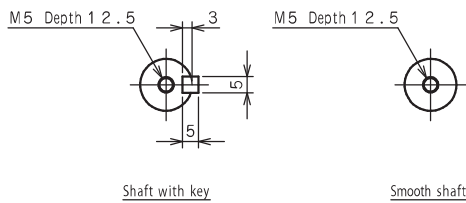
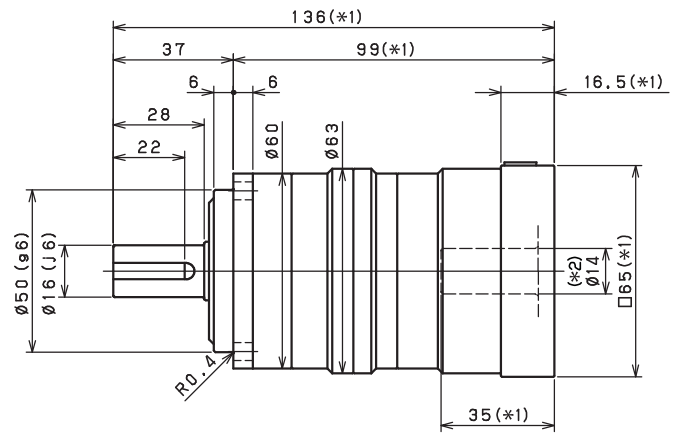
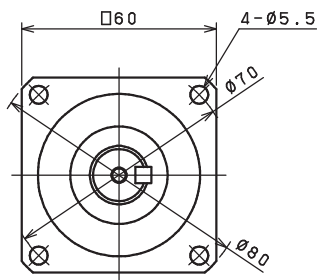
*2) Bushing will be inserted to adapt to motor shaft

VRB-o6o – 2-Stage Dimensions

Input shaft bore $\leq \phi 8$



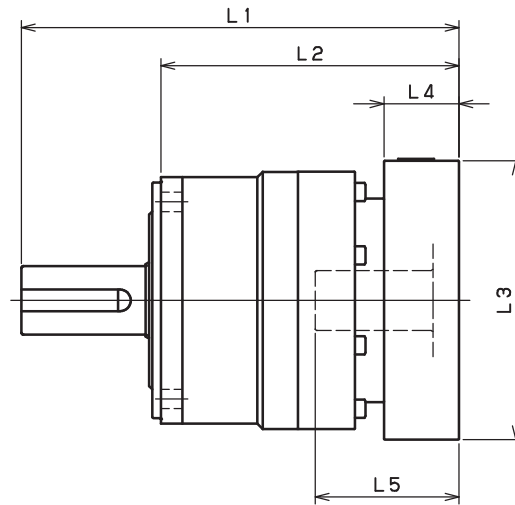
Input shaft bore $\leq \phi 14$



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

VRB-SERIES Inline shaft

VRB-o6o – 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	

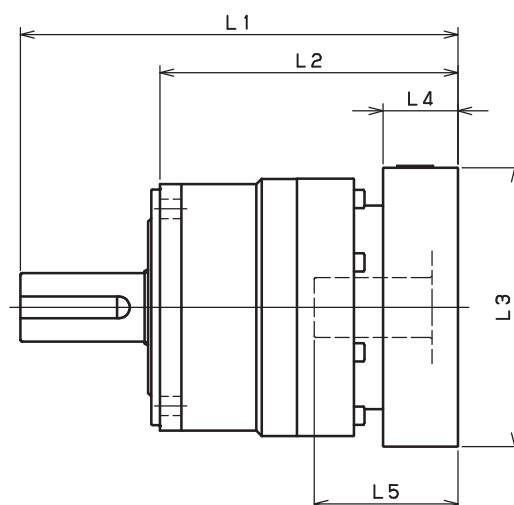
*1) Single reduction : 1/3~ 1/10

*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

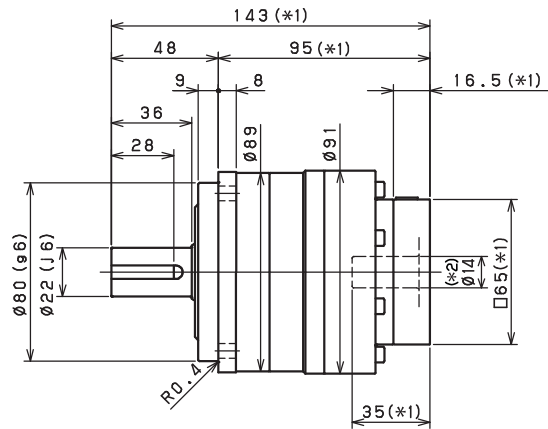
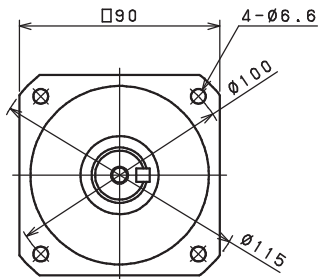
*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

*15) The weight may vary slightly between models

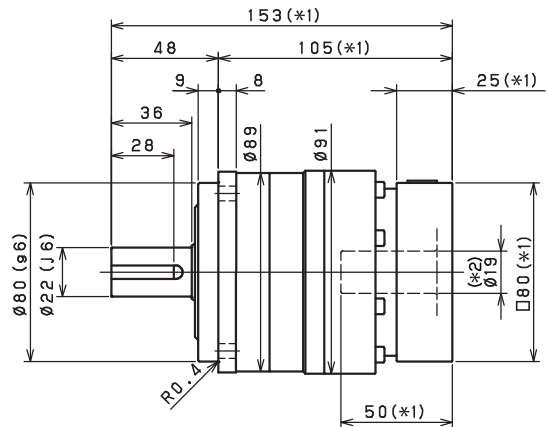
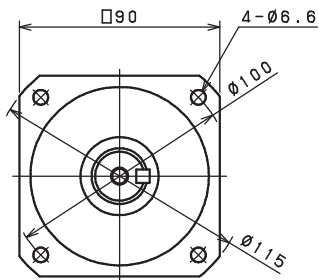
VRB-SERIES Inline shaft

VRB-090 – 1-Stage Dimensions

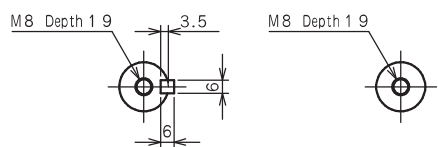
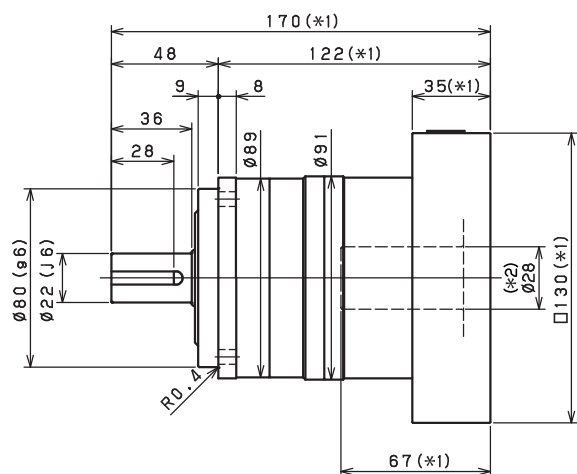
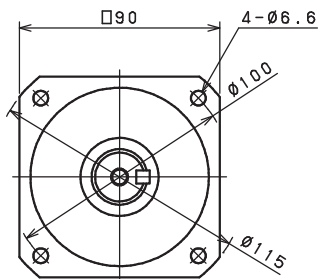
Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$



Input shaft bore $\leq \varnothing 28$



Shaft with key

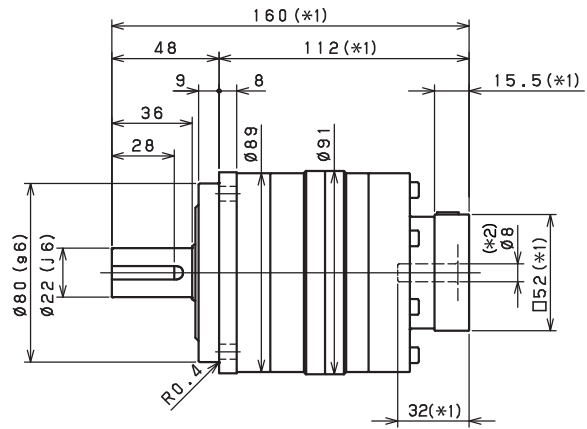
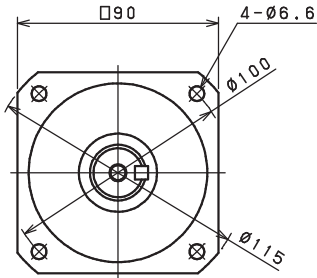
Smooth shaft

*1) Length will vary depending on motor

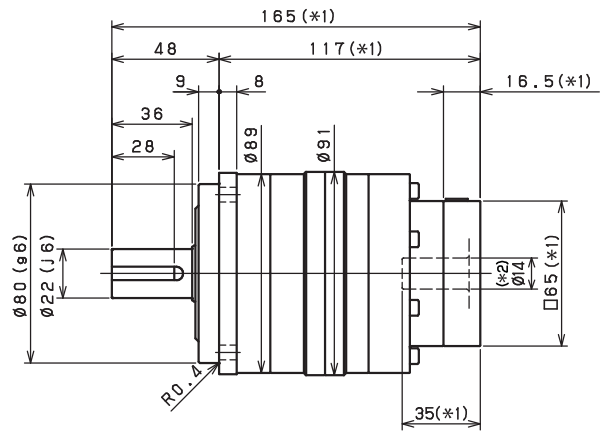
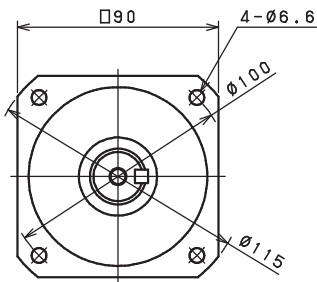
*2) Bushing will be inserted to adapt to motor shaft

VRB-090 – 2-Stage Dimensions

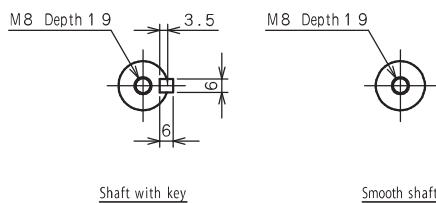
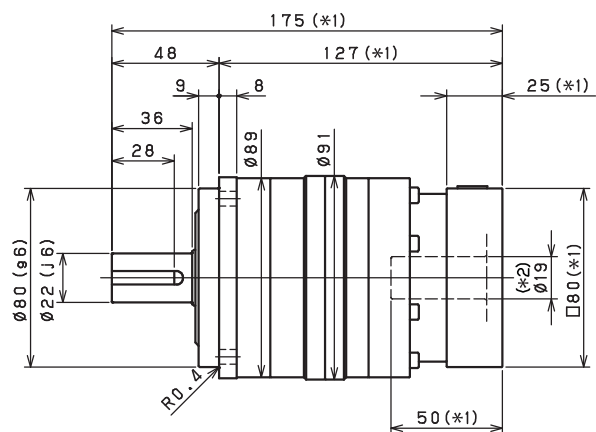
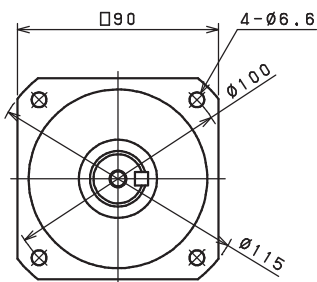
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$

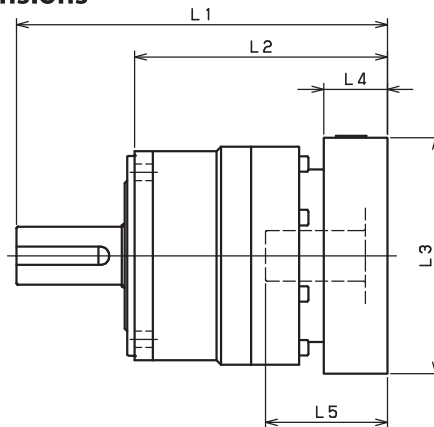


*1) Length will vary depending on motor
 *2) Bushing will be inserted to adapt to motor shaft

VRB

VRB-SERIES Inline 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
	JA	158	126.5	110	□150	31.5	50
VRB-090-□-□-19** (Input shaft bore ≤ φ19)	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
	JA	163	128	115	□150	35	60
	JB	168	128	120	□150	40	65
VRB-090-□-□-28** (Input shaft bore ≤ φ28)	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
	JA·JB·JC·JF	170	135	122	□150	35	67
	JD	190	135	142	□150	55	87
JE	180	135	132	□150	45	77	

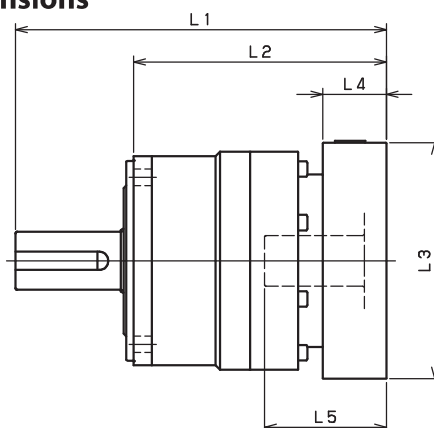
*1) Single reduction : 1/3~ 1/10

*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

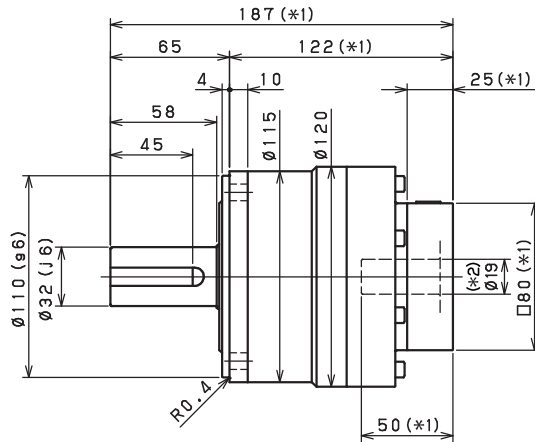
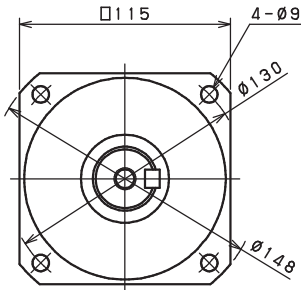
*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

*15) The weight may vary slightly between models

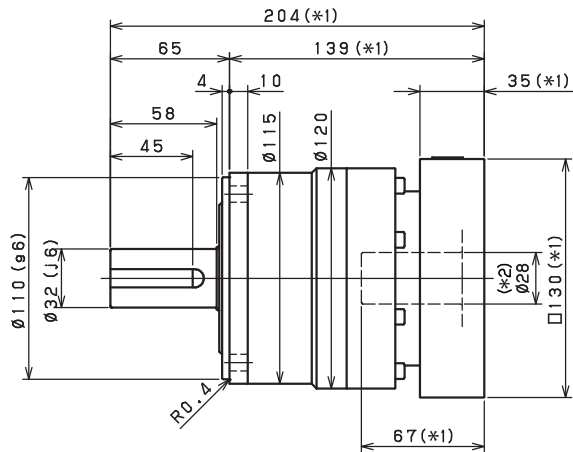
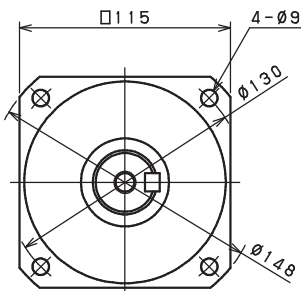
VRB-SERIES Inline shaft

VRB-115 – 1-Stage Dimensions

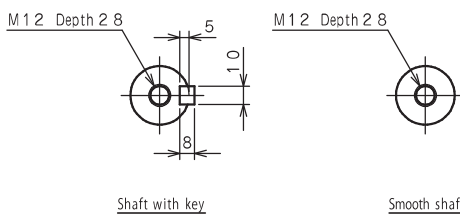
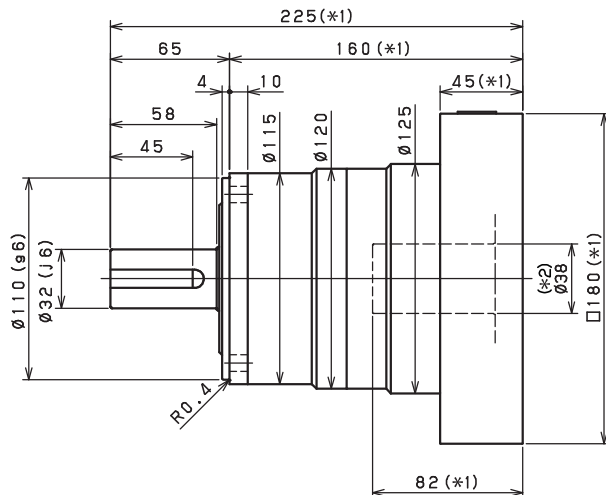
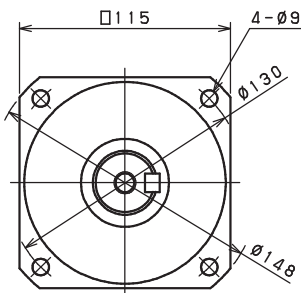
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



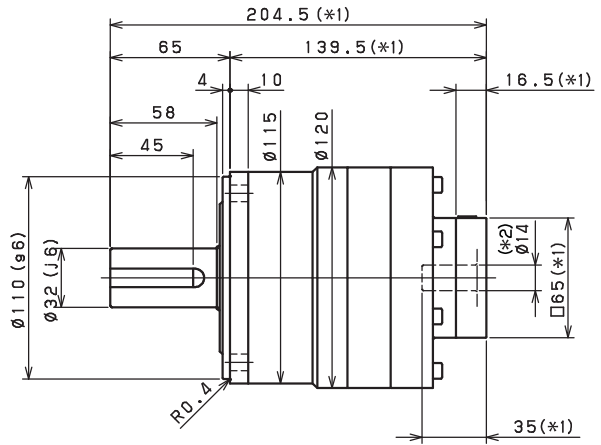
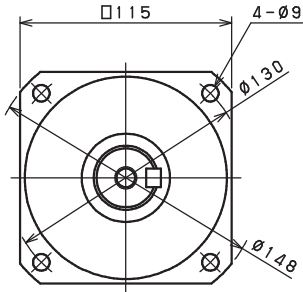
Shaft with key

Smooth shaft

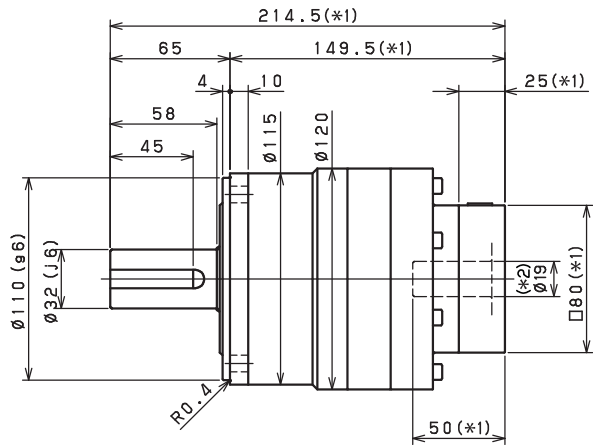
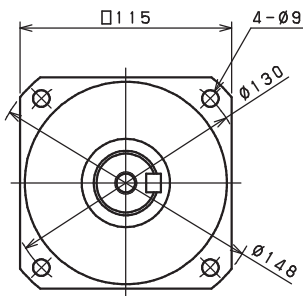
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRB-115 – 2-Stage Dimensions

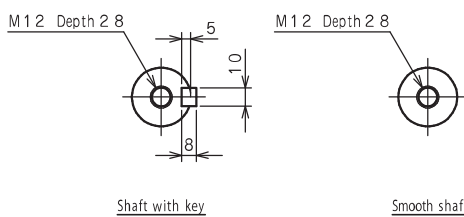
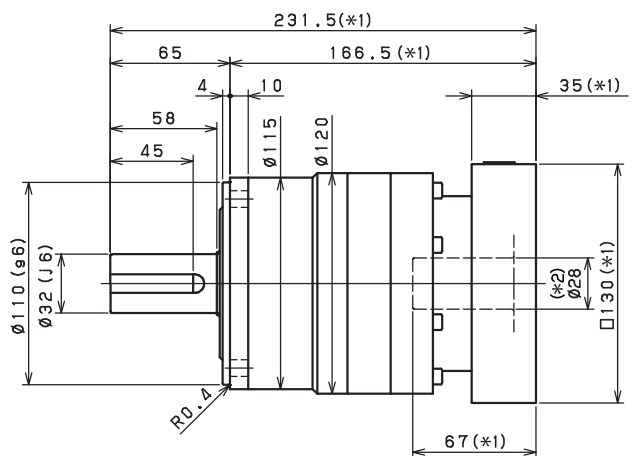
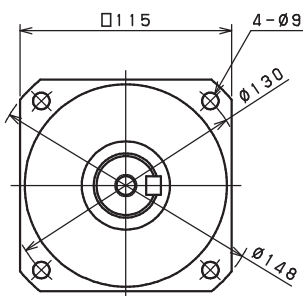
Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$



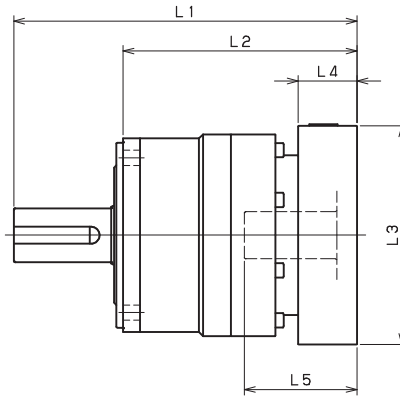
Input shaft bore $\leq \varnothing 28$



- *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
VRB-115-□-□-38** (Input shaft bore ≤ φ38)	KA•KB•KC	225	180	160	□180	45	82
	KD	260	180	195	□180	80	117
	KE	240	180	175	□180	60	97

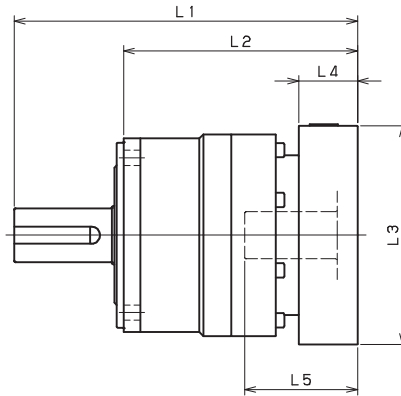
*1) Single reduction : 1/3~ 1/10

*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)	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
	HB	229.5	189.5	164.5	□130	40	65
VRB-115-□-□-28** (Input shaft bore ≤ φ28)	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
	JA	249	204	184	□150	45	82
VRB-115-□-□-38** (Input shaft bore ≤ φ38)	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

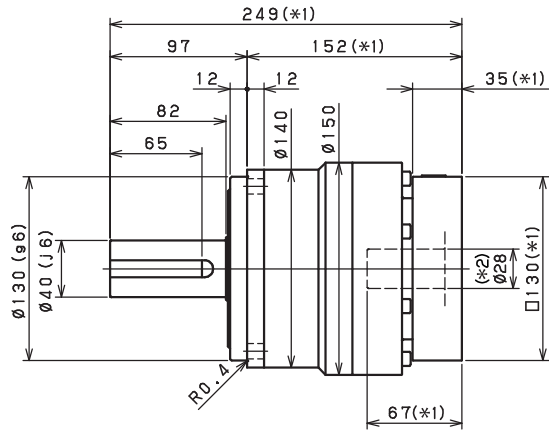
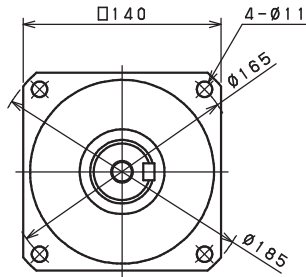
*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

*15) The weight may vary slightly between models

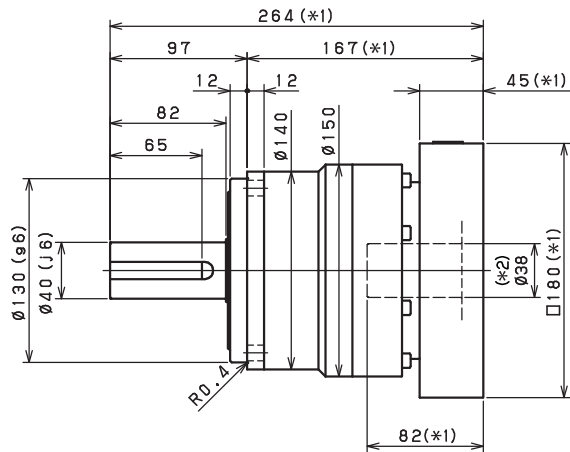
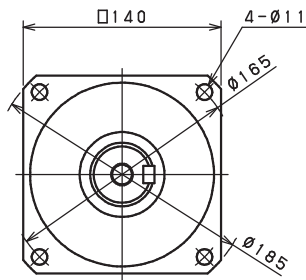
VRB-SERIES Inline shaft

VRB-140 – 1-Stage Dimensions

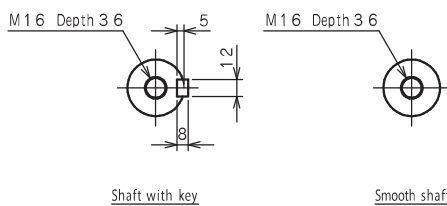
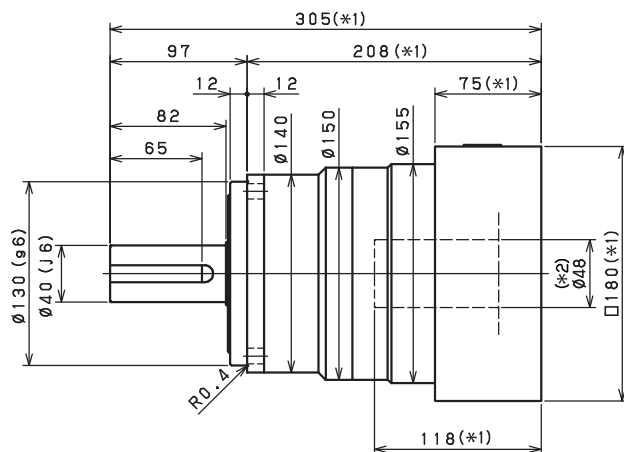
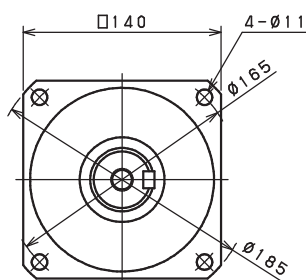
Input shaft bore $\leq \varnothing 28$



Input shaft bore $\leq \varnothing 38$



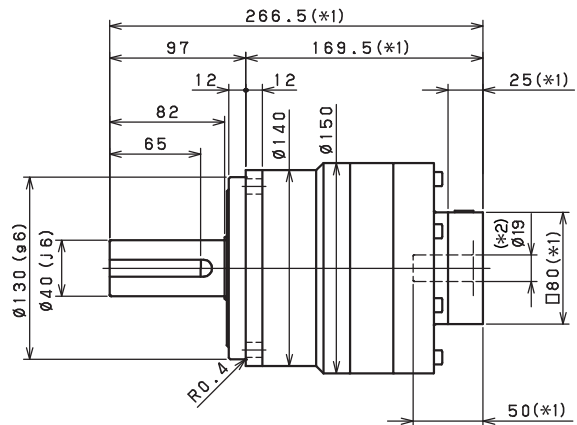
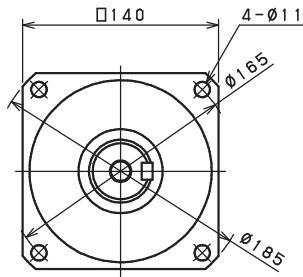
Input shaft bore $\leq \varnothing 48$



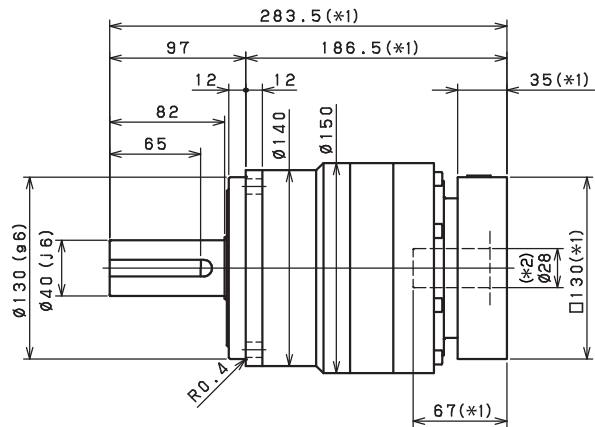
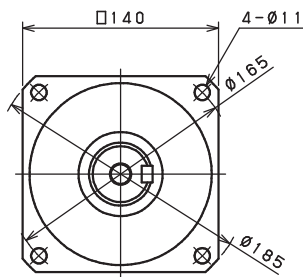
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRB-140 – 2-Stage Dimensions

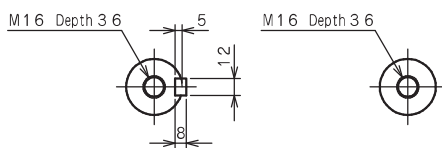
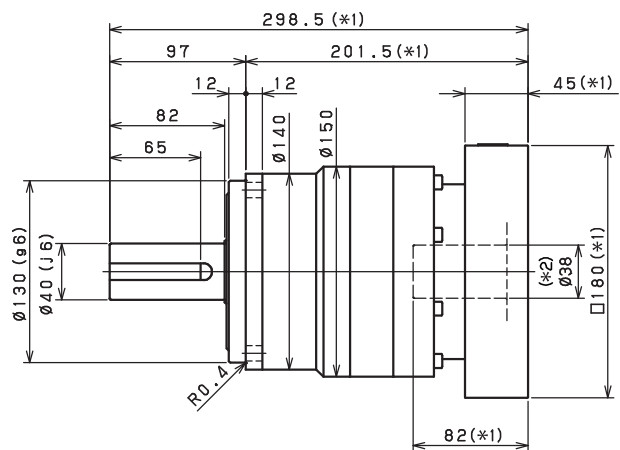
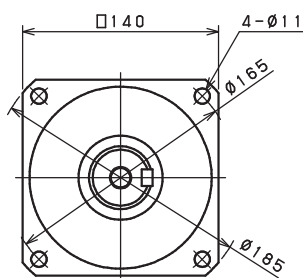
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



Shaft with key

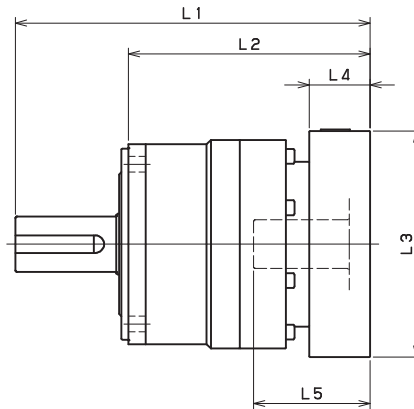
Smooth shaft

*1) Length will vary depending on motor

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

VRB-SERIES Inline 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	

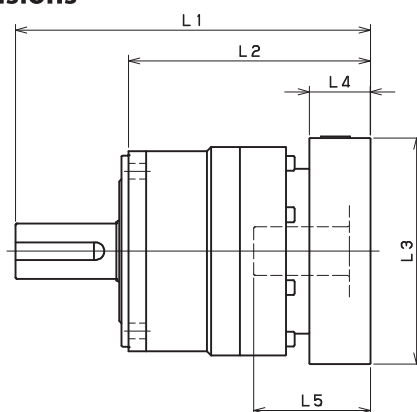
*1) Single reduction : 1/3~ 1/10

*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 ($\leq \emptyset 28$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	44.000	28.000	22.000	18.000	16.000	15.000	14.000	14.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	66.000	50.000	44.000	41.000	38.000	37.000	36.000	36.000
Moment of Inertia ($\leq \emptyset 65$)	[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 ($\leq \emptyset 28$)	[kgcm ²]	--	4.700	5.400	4.400	4.200	4.900	3.200	4.100	3.200
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	12.000	13.000	12.000	12.000	13.000	11.000	12.000	11.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	34.000	35.000	34.000	34.000	35.000	33.000	34.000	33.000
Moment of Inertia ($\leq \emptyset 65$)	[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

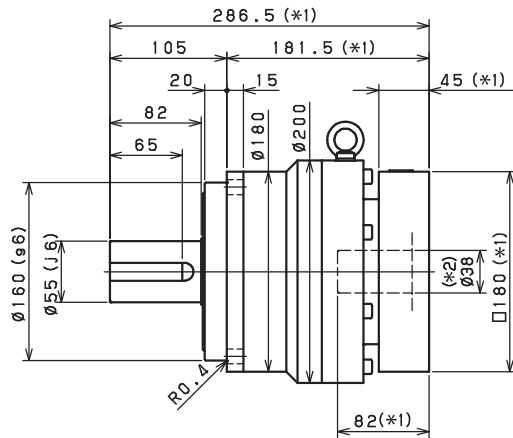
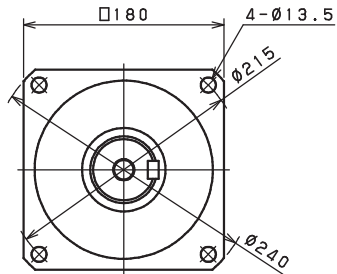
Frame Size	180										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	500	500		
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	970	970		
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2200	2200		
Nominal Input Speed	[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 (≤ Ø 28)	[kgcm ²]	--	4.000	3.100	3.100	3.100	3.100	3.100	3.100		
Moment of Inertia (≤ Ø 38)	[kgcm ²]	--	12.000	11.000	11.000	11.000	11.000	11.000	11.000		
Moment of Inertia (≤ Ø 48)	[kgcm ²]	--	34.000	33.000	33.000	33.000	33.000	33.000	33.000		
Moment of Inertia (≤ Ø 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

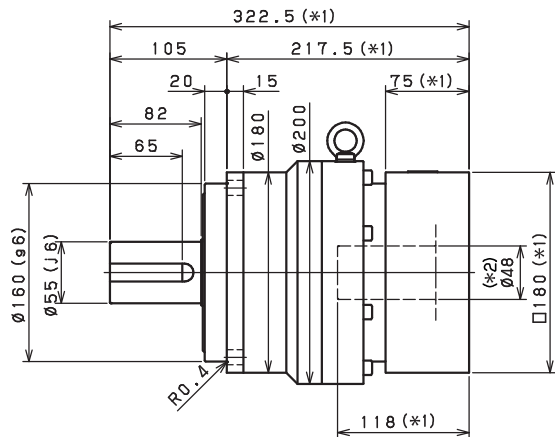
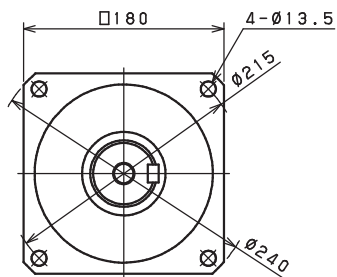
VRB-SERIES Inline shaft

VRB-180 – 1-Stage Dimensions

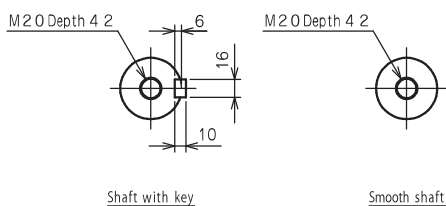
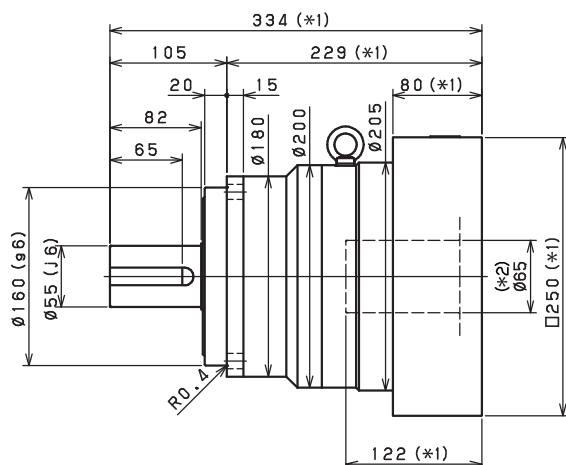
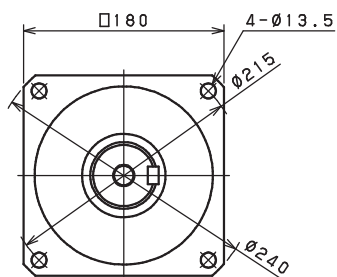
Input shaft bore $\leq \phi 38$



Input shaft bore $\leq \phi 48$



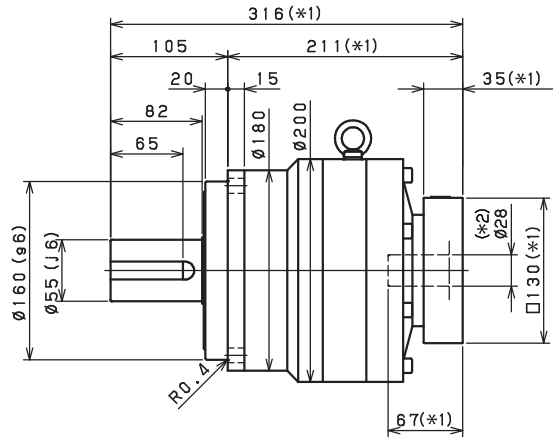
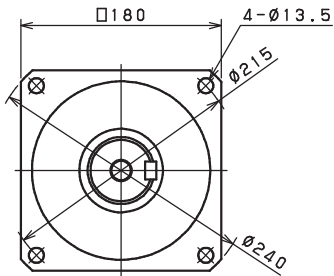
Input shaft bore $\leq \phi 65$



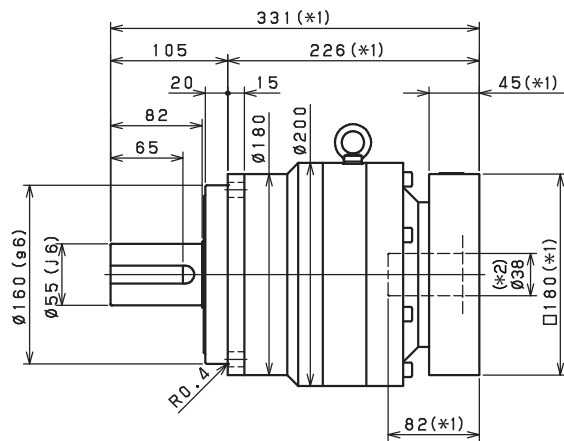
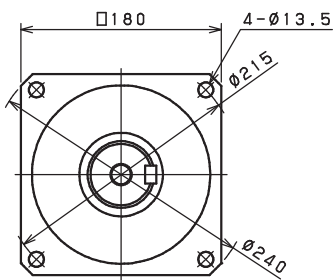
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRB-180 – 2-Stage Dimensions

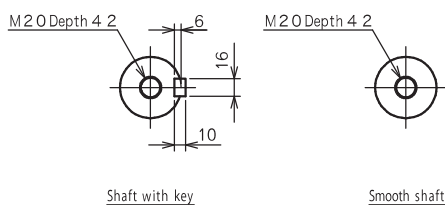
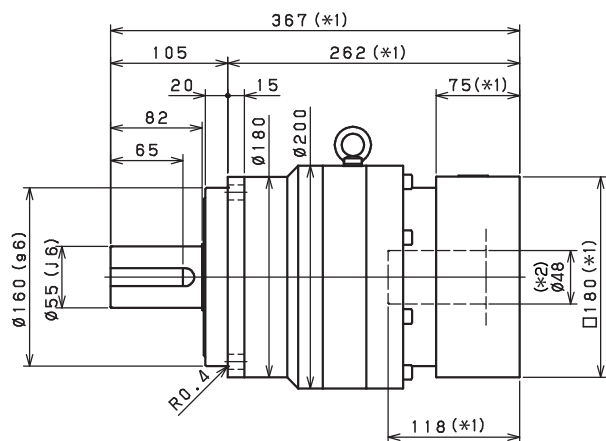
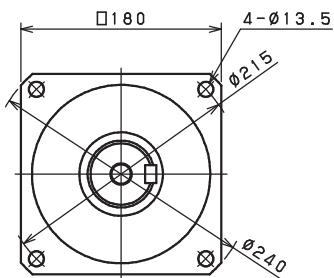
Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



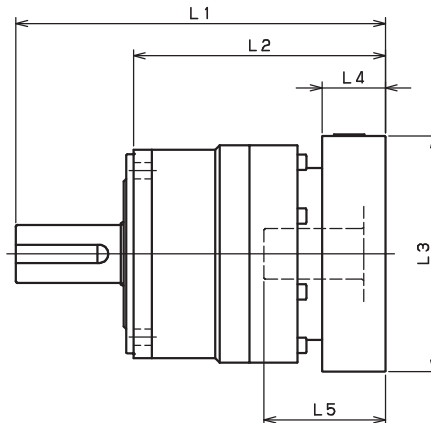
Input shaft bore $\leq \phi 48$



- *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

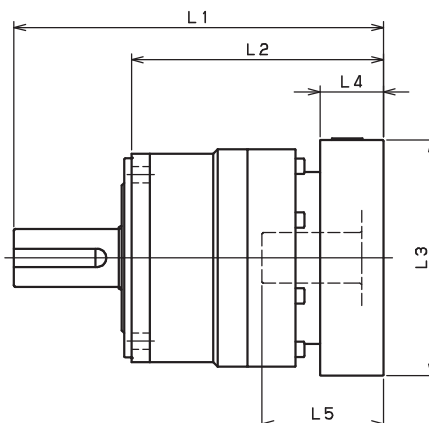
*1) Single reduction : 1/3~ 1/10

*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
MB	326	281	221	□220	45	77	
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 ($\leq \varnothing 38$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	90.000	62.000	52.000	47.000	42.000	40.000	39.000	38.000
Moment of Inertia ($\leq \varnothing 65$)	[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 ($\leq \varnothing 38$)	[kgcm ²]	--	14.000	16.000	14.000	14.000	15.000	12.000	13.000	12.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	36.000	37.000	35.000	35.000	36.000	34.000	35.000	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							

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

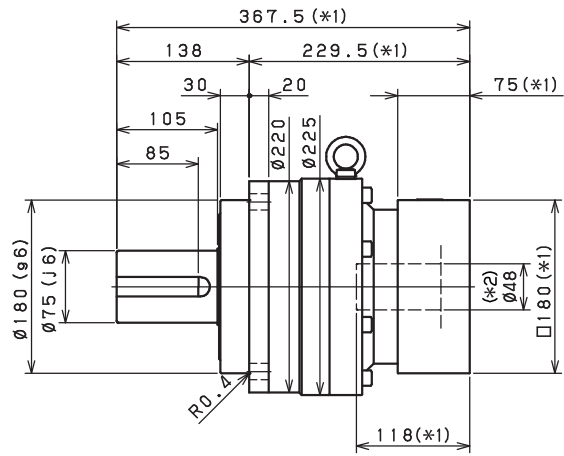
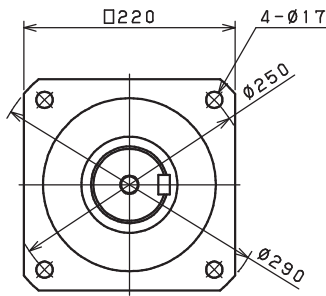
*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

*15) The weight may vary slightly between models

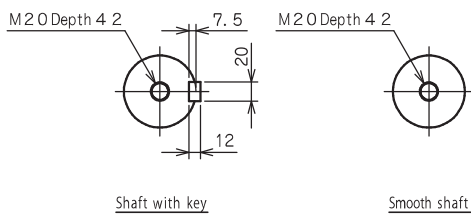
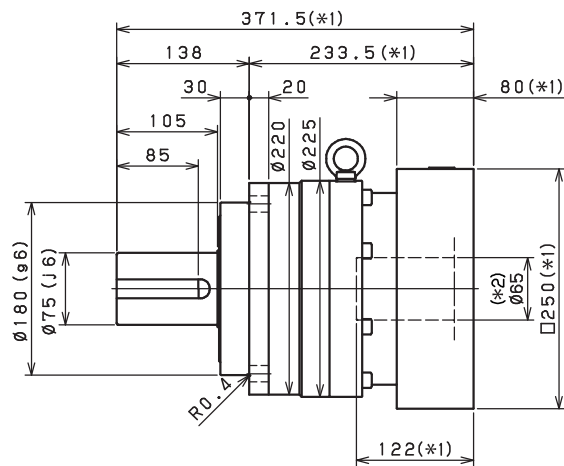
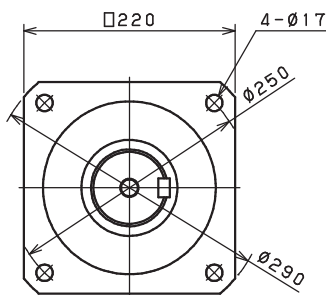
VRB-SERIES Inline shaft

VRB-220 – 1-Stage Dimensions

Input shaft bore $\leq \varnothing 48$



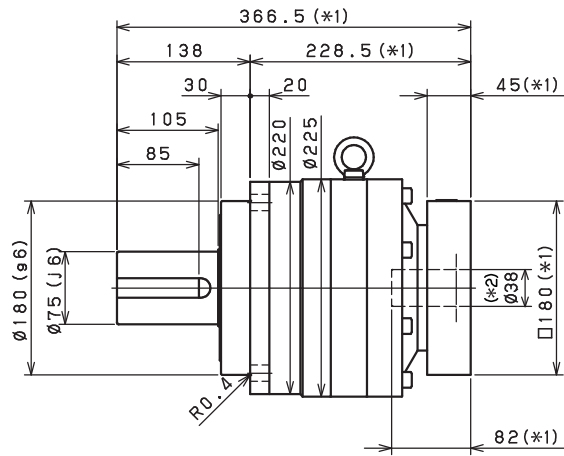
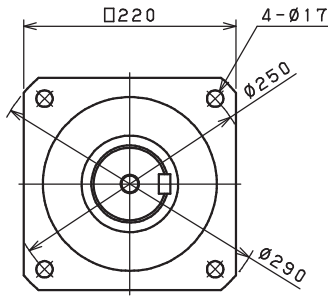
Input shaft bore $\leq \varnothing 65$



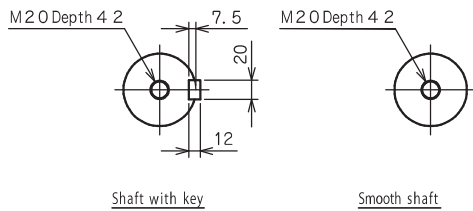
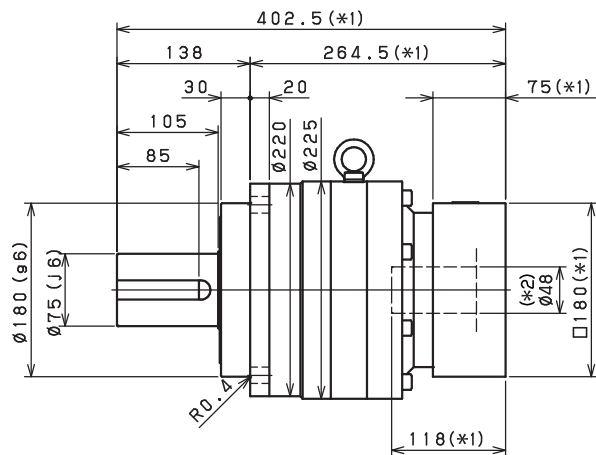
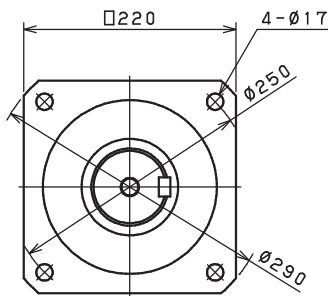
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRB-220 – 2-Stage Dimensions

Input shaft bore $\cong \varnothing 38$



Input shaft bore $\cong \varnothing 48$

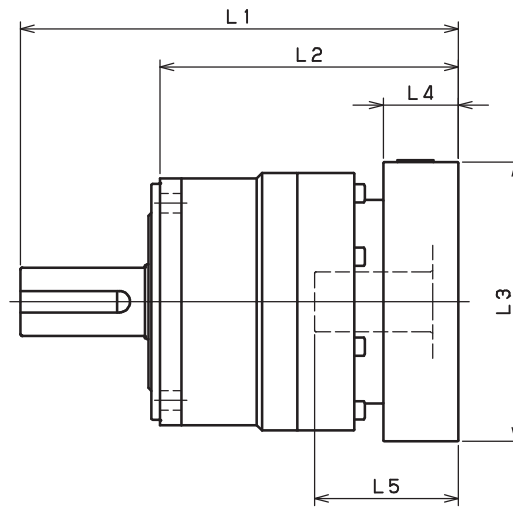


*1) Length will vary depending on motor

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

VRB-SERIES Inline 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

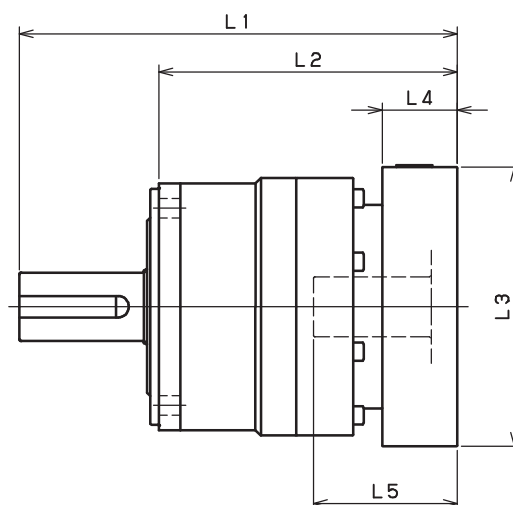
*1) Single reduction : 1/3~ 1/10

*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)	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
	PA	402.5	327.5	264.5	□280	75	118
VRB-220-□-□-65** (Input shaft bore ≤ φ65)	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.

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